MARCH 1946

FIREMEN

FIFTIETH ANNIVERSARY YEAR • NATIONAL FIRE PROTECTION ASSOCIATION

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The Standards recommended by the National Fire Protection Association comprise the generally accepted yardstick for measuring the adequacy of the municipal fire defenses. Section 206-10 of the Standards relative to proper fire alarm box distribution is quoted below.

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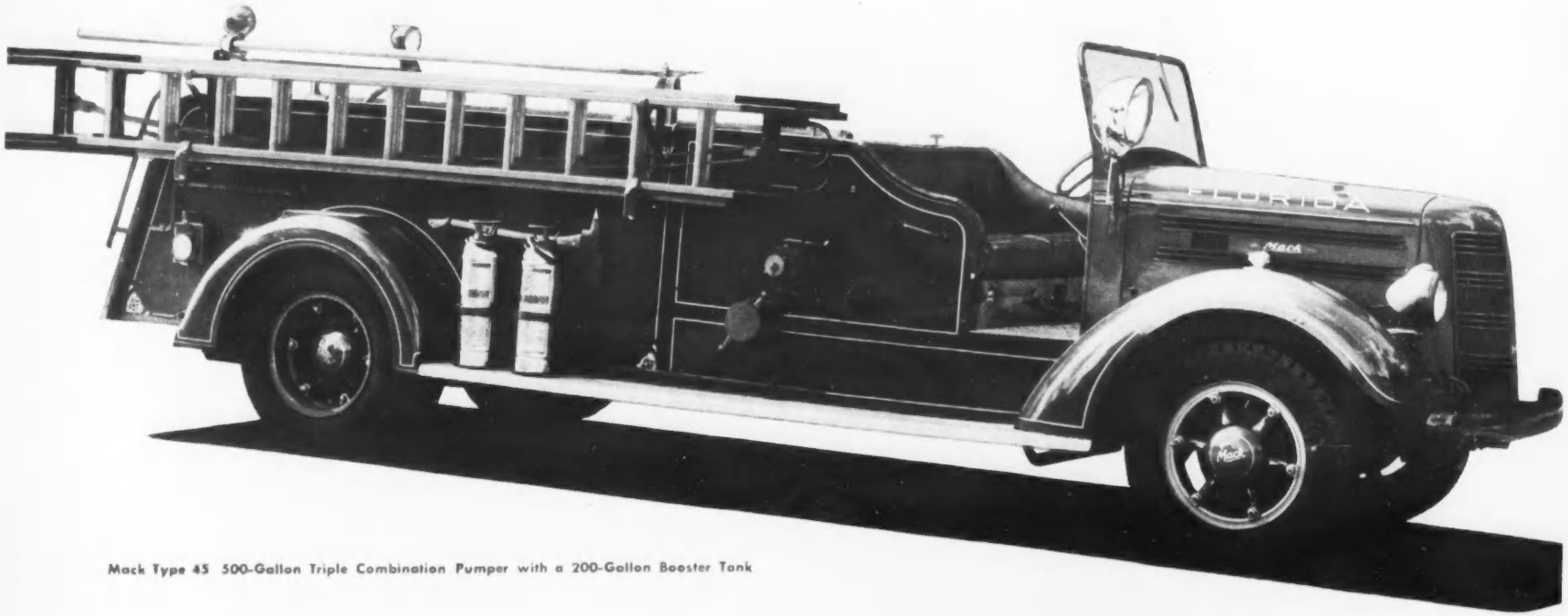

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Firemen

Volume 13 Number 3

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NOT confusion but calm is the great intangible needed at any troubled scene. At the time of fire, fearful occupants and property owners value reassurance more than any other service. The calm, businesslike confidence of the fire department officers and men will be instantly felt and appreciated. The self-assurance of the trained fireman is most comforting to the harried persons driven from their homes.

No single thing contributes more to this desired feeling of confidence than fire ground orders given in a calm, firm voice that will instantly be understood and carried out. When possible, an officer should address men by name rather than by shouting a vague "hey-you-there."

If giving orders to an entire company, it is desirable to address the company officer by his proper title and make certain that he understands what is wanted.

No matter how bad the situation may appear to be, excited bellowing will not better it, and it may make the confusion worse. Needless yelling will certainly undermine the confidence of both fire department members and the public. No self-respecting person likes to be shouted at. Also, it is impossible for a shouted command to be given or understood as clearly as one spoken in a strong, firm tone. Fire officers should be required to practice giving commands just as prospective military officers are required to do, using the chest and diaphragm properly instead of making the vocal cords do all the work. Certainly many less important subjects are covered in fire department promotional examinations and some men may become officers who do not know how to issue commands.

While it is said that the oldtime chief could be heard half a mile away on a still night, it is unfortunate that frequently he could not be understood by a fire company on an upper floor. Accordingly, it was not uncommon practice for a hose crew to accidentally "misdirect" their hose stream in an effort to silence a lusty bellow from below.

It is said that one point upon which European fire officers consider themselves superior to their American counterparts is in their ability to issue understandable orders without sounding like a prize bull. Be that as it may, many progressive fire chiefs are using loud speaker equipment to give clearly enunciated and understandable orders to men out of range of normal voice. This reminds us that the symbol of the fire officer is the trumpet which, in the early volunteer days, each officer used as a megaphone to make his commands understood.

OUR attention has been called to the fact that some fire departments have purchased surplus Army gas masks, because they are available at very lost cost, and are using these masks in fire fighting operations. This can be a very dangerous practice, as Army masks are specifically designed to guard against war gases and do not have the proper canister for protection against the smoke and gases of fires.

It is true that when tried out in test houses against moderate smoke intensities the masks appear to work fairly well. This can give a false sense of confidence, because while the canister may give limited protection under such conditions, it is not designed to guard against even moderate concentrations of carbon monoxide and other fire gases.

Fire department members may recall that in a number of instances firemen wearing canister type gas masks designed for fire service use have been overcome in areas deficient of oxygen. A number of excellent self-contained masks are available for the fire service which provide needed oxygen.

THE cover picture this month (*International*) shows a fire on Philadelphia's Race Street in which two children of a family of gypsies were burned to death. Six other members of the family were also injured. The picture shows Philadelphia fire fighters forcing entrance over ladders and through the front of the house in spectacular rescue efforts.

THE January fire loss in the United States was $49,808,000, as estimated by the National Board of Fire Underwriters.

Fire losses for the twelve months ending in January of this year totaled $460,272,000, as compared with $431,831,000, the losses for the year ending in January 1945.

Canadian fire losses during January totaled $4,500,000.

Fiftieth Annual Meeting of the N.F.P.A., Hotel Statler, Boston, June 3-7, 1946

Making Water Wetter

ONE of the subjects many firemen have been discussing in recent months is the possibility of introducing certain chemicals into the booster tanks on fire apparatus to make the water break up into a finer spray at lower pressures and to secure greater penetration of water into burning materials.

Most rural fire departments have to carry their water long distances to fires. If, by the introduction of chemicals, they can make a given tankful of water do twice as much work in killing fire, they would consider the procedure worthwhile.

While most of us think of water as being very wet, particularly when we have happened to get too close to a "big line" on a cold night; water is not nearly as good a wetting agent as fire fighters might wish. All of us have noticed the tendency of water to remain in drops on an auto windshield or on a piece of fabric instead of spreading out on the windshield or soaking in to the fabric. This is partly due to the fact that each droplet of water is inherently held together by what is called a "surface tension." It is also due to the fact that oils and other substances on the surface of fabrics or building materials readily resist the penetration of water. It is the old story of water rolling off the duck's back because of the natural oil in his feathers. Water from fire streams also largely falls off surfaces without contributing much to extinguishment of a deep-seated fire.

Industrial chemists in textile plants and other industries have long recognized the limitations of water as a wetting agent and have developed numerous wetting agents variously called "water softeners" or "water surface tension reducers" to get almost instant penetration of liquids into fabrics and other materials.

Chairman Willard Hall, of the Engineering Committee of the Woonasquatucket Valley Firemen's League in Rhode Island, was familiar with the value of water softeners in industry and reasoned that there are many places where a wetter water would be useful to firemen. His long experience with the difficulty of controlling smouldering fires in the deep duff of the Rhode Island woods led him to wish for a water that would really penetrate smouldering materials instead of remaining at the top of a layer of burning material.

Fires in rural buildings would go out a lot quicker if the water from the booster and 1½-inch hose had a real affinity for the burning material instead of just spattering off. Fires in packed bales at mills or warehouses have long given fire fighters trouble. Bales of cotton for example have burst into flame after having been immersed under water for a month. In some cases kerosene has been used to smother such fires because it will penetrate into recesses of fibres that water cannot reach. However, kerosene is not a desirable fire fighting agent and water treated with a wetting agent that would not seriously damage the fibres would be preferable. Fires involving mattresses and over-stuffed furniture, long a smoky headache for firemen, should yield to a wetter water.

Another advantage anticipated from the use of wetting agents for the water tanks of fire apparatus was the desire to develop more effective fog or spray using less water and lower pressures. If the surface tension of the water could be reduced, the water should break into finer spray at lower pressures and with a possible reduction of water used. While it is appreciated that a coarse, large volume spray is needed in many fire fighting operations, the rural fireman's chief concern is to make the most effective use of existing water supplies.

Chairman Willard Hall, Engineering Committee, Woonasquatucket Valley Firemen's League, demonstrating the value of water to which a wetting agent has been added. Treated water quickly soaks field brush and stubble which resists the penetration of untreated water.

Last year, the Woonasquatucket Valley Firemen's League (member NFPA) received the cooperation of Mr. Alfred N. Henschel of the Alrose Chemical Co., of Providence, R. I., in a demonstration of wetting agents. Mr. Henschel pointed out that it should be possible at very small cost to introduce the agents into fire department booster tanks. This might double the effectiveness of the water carried as far as penetration was concerned. At the same time, the proper wetting agent should be a rust-inhibitor in the fire truck tank and should not cause appreciable added water damage to burning materials as was the case with the old fashioned chemical stream.

It was indicated that a gallon of wetting agent obtained at moderate cost would service several hundred gallons of water. After several interesting demonstrations of the superior penetration of water containing wetting agents when contrasted with untreated water, several Rhode Island fire departments obtained samples for future use under fire ground conditions. The field experience has not yet been reported.

On the following page is a proposed method for evaluating the penetration of a pile of sawdust by water treated with wetting agent. This may be contrasted with the slower penetration by untreated water.

Firemen in other states have expressed keen interest in the possibilities suggested by the use of water softeners. Considerable experimental and field experience will be needed to determine whether use of water softeners by fire departments will have measurable advantages at fires and to determine at what type of fires such use might be desirable.

A Way of Evaluating Wetting Agents Used for Fighting Fire

Proposed by Alfred N. Henschel, Alrose Chemical Co., Providence, R. I.

THE use of wetting agents by simple addition to water carried in fire engine supply tanks has been previously described in an issue of *Volunteer Firemen* (now FIREMEN magazine), March 1945. The results obtained with wetting agents were of practical value to the fire fighter, but with respect to the particular wetting agent used it was stated that, "the solution reduced the surface tension of water to such an extent that it permitted oxygen in the water to attack the galvanized water tanks and pumping equipment, starting a corrosion process that would be hard to justify."

Analyzing this statement, it appears that the subject offers much to be improved upon, hence a further investigation appears warranted. The possibility of making water more effective as an extinguishing medium represents an important innovation in saving lives and protecting property and is of such magnitude that it deserves further serious consideration. Time is an important element in fighting fire and the necessity of having to haul water by truck to extinguish fires would appear to be a critical point. If, by using a wetting agent, the effectiveness of one truckload of water can be increased five times, loss of time can be minimized to a certain extent; that is, the loss of time brought about in having to make an additional trip for more water to put a fire out. Another consideration is the desire to insure putting a humus, peat, or similar fire out the first time without additional calls on the same fire. A wetting agent can be useful in this situation since it lowers surface tension, preventing shedding of water and insuring thorough wetting by promoting absorption of the water by combustible material.

Normally, almost all materials such as wood, grass, and humus exhibit a water repellent character that is increased by the presence of dust, if nothing else, which tends to prevent rapid absorption of water and retards the effective use of water in extinguishing fires in the materials described.

Today, industry uses hundreds of very fine wetting agents and surface active materials. Many of these exhibit excellent wetting action but do not exhibit the previously noted characteristic of accelerating the active corrosion of metals by allowing oxygen to come in contact with metals directly from the water and air where sloshing action is encountered in a metal supply tank. A considerable number of surface active agents have been examined and found to promote active corrosion. At the same time, one was found which did not promote active corrosion and possessed suitable wetting properties. The agent, when used in 1 per cent concentration in the presence of water and soft iron nails and did not show corrosive characteristics, was Sorbit ACH paste (a product of the Alrose Chemical Company).

In order to measure the effectiveness of wetting agents, many tests were designed before one was found that would give a measure of the effectiveness of wetting action on a combustible material.

EQUIPMENT

1. A glass funnel 5″ diameter x 4½″ with a 2″ stem ¼″ inside diameter.
2. A plastic spray nozzle, 21 holes on face (5 & 10 store).
3. 3″ length of rubber tubing, ⅜″ diameter.
4. 16″ x 24″ enamel tray or equivalent.
5. Bottle methylene blue dye, 2% solution.
6. 10-lb. bag of sawdust (white pine).

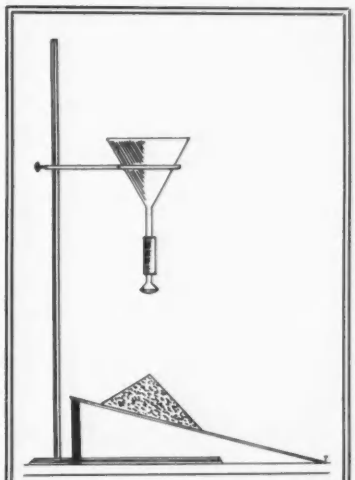
Specifically
- 55%—*greater* than 20 mesh
- 40%—20 mesh
- 10%—40 mesh
- 5%—60 mesh

7. 1-lb. bottle Sorbit ACH paste.
8. 1″ x 1½″ soft-haired paint brush.
9. 1 trip scale for weighing sawdust.
10. 2 100-ml. graduates.
11. 2 1,000-ml. beakers for weighing out sawdust.
12. 1 chemical stand with adjustable ring clamp, to hold glass funnel.

PROCEDURE

Step 1: Assemble spray nozzle, rubber tube, and glass funnel, and place in ring on chemical stand.

Step 2: Weigh out several 100 gm. samples of dry sawdust of specifications given.



Conical Sawdust Pile Test for Wetting

Step 3: Set up tray at 25% slope of 4″ in 16″ and place several samples of weighed sawdust in cones having a base of 6″ laterally and a height of 2½″.

Step 4: Make up a 1% solution of non-corrosive wetting agent, such as Sorbit ACH, and place in 100-ml. graduate; add 10 cc. methylene blue solution to color.

Step 5: Fill another 100-ml. graduate with tap water; add 10 c.c. methylene blue solution to color.

Step 6: Place funnel directly over first pile of sawdust on inclined slope at a height of 5″ above top of sawdust cone. Pour *colored water* (Step 5) into funnel so it will fall on sawdust. This takes less than ½ minute.

Step 7: Place funnel over next pile of sawdust at a height of 5″ from top of cone. Pour colored wetting solution (Step 4) through funnel onto sawdust.

Step 8: At the end of 10 minutes, use a brush and carefully brush away sawdust not wet by water and weigh. Repeat operation on cone where wetting agent has been used and tabulate separately.

It will be observed that where no wetting agent has been used in the water, the water will break through the pile and will wet only a comparatively small segment of the sawdust cone.

Continued on page 32

North East W

Big Fires Sweep the

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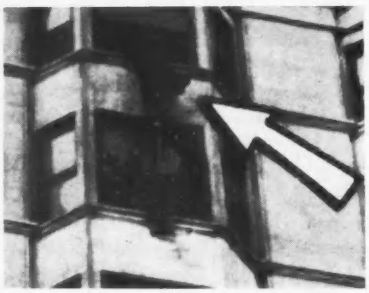


Acme

Four fires in one day was the record of the Congress Hotel, Chicago, onetime NFPA annual meeting headquarters, on February 3. One guest suffocated and several were injured.

Firemen are shown rescuing a twelfth floor occupant by a pompier ladder.

The interior view shows damage in a fifth floor hallway. The causes of the four separate fires are being investigated. Each time the alarm to the fire department was delayed while employees fought the flames. Fires spread through open air-wells and entered rooms through glass transoms.

Lyall Studio

Conquest of Granada, by fire. The Granada Theatre building in Inglewood, Calif., was burned, on December 18, by a fire which had completely involved the building before the alarm was given. Loss estimate, $120,000.

Flames shot fifty feet as this 1930 sedan burned at a Los Angeles intersection. It was reported that an explosion occurred when gasoline, leaking from the carburetor was ignited by engine heat. This photograph shows why experienced firemen treat automobile fires with a certain respect.

Press Association, Inc.

Firemen had their troubles when the Striar Shoddy Mill in Brewer, Maine, burned on January 23. Water pressure was so low that hose streams were ineffective and there was insufficient water for sprinklers. Frozen hydrants also hindered firemen.

One employee died in the fire. Losses were reportedly set at $500,000.

Evansville, Ind., scored twice. Nearly an entire block was destroyed when a $500,000 fire started in a furniture plant on January 31.

Lower photo. A $100,000 loss resulted when a warehouse at the Evansville shipyards, on the Ohio River, burned on January 26. Several smaller buildings were destroyed.

Acme

West South
the Country

Ten buildings destroyed, $2,000,000 damages were the results of the year's biggest conflagration. The fire, which broke out in the heart of Charleston, W. Va., was said to have originated in a printing plant. The fire was discovered at 3 A.M.

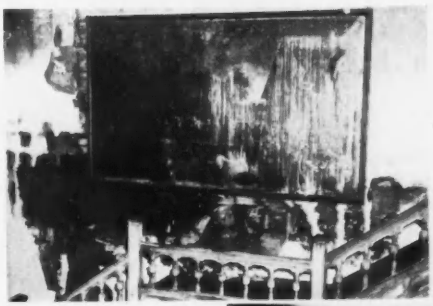
Most of the buildings were four-and five-story, brick walled structures, having combustible interiors. One serious exposed building was saved by automatic sprinkler equipment backed up by hose streams.

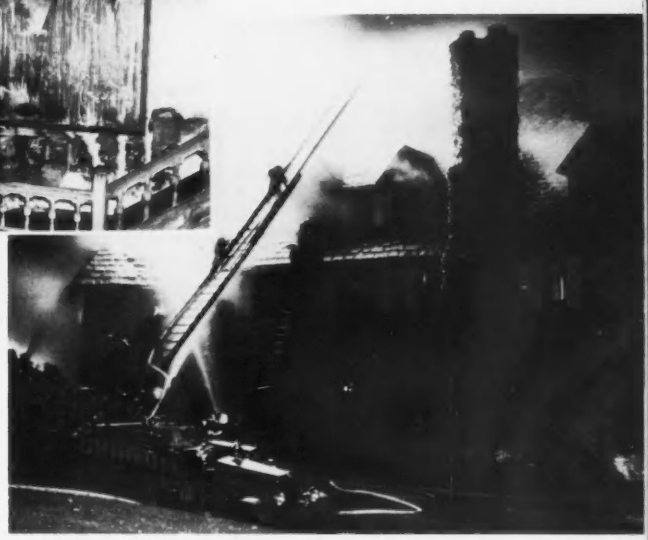
Acme

International

The fabulous Guggenheim mansion in Washington, D. C., became a shambles in a $1,000,000 fire on January 31. The thirty-five-room house was built twenty-five years ago at a cost of $500,000. It was filled with priceless art objects and paintings.

Fire companies responding to three alarms are seen battling flames from ladders. The insert picture shows a carved oak stairway above which hang the remains of a painting by a 15th century Flemish artist, just one of the valuable paintings destroyed. Two of the paintings were by the famous Titian and valued at $200,000.





The Charleston, N. C., Navy Yard recreational building, containing a theatre and ship's service, burned flat on January 31. Flames swept through the structure, obviously lacking effective fire stops, before firemen had hose streams in operation.

Firemen are shown making connection to a hydrant, before a single entry had been made into the building in an effort to cut off the flames which obviously swept through the attic area with great intensity and rapidity.

Press Association, Inc.

DAILY LIFE

IT is an old story by now that 10,000 people die by fire annually in the United States and Canada. As this great loss of life is scattered over the face of the continent in thousands of isolated incidents, the tragedies do not attract the public attention they deserve. The exception is an occurrence such as the Hartford circus fire or the Cleveland gas explosion when a hundred lives are snuffed out at once.

On these pages are assembled a cross section of typical fire fatalities, almost all occurring within the space of one month. It is impossible to give the details of each disaster, but a study of the picture will, in many cases, show some of the reasons for the loss of life.

Chicago Daily News

Death by fire in the frequent city apartment house blazes is not uncommon. This January 16 Chicago apartment building fire took the life of the young wife of a Navy veteran, who was also critically burned. Firemen said they would have been safe had they remained in their rooms. They were found in a second-floor corridor below their apartment.

Despite the provision of aerial ladder trucks with crews trained in rescue techniques, apartment dwellers are frequently trapped by flames that rage through the combustible interiors of brick-walled structures.

This apartment house fire, also in Chicago, occurred on January 27 in zero weather. Two women suffocated.

Press Association, Inc.

A ten-year-old child lost her life when her home was destroyed by fire in East Oakmont, Pa., January 8. In the photograph, neighbors are seen helping police search for the body of the little girl, somewhere in the ruins of the house.

Smoke inhalation apparently caused the death of Fireman Michael P. Benzman of Alton, Ill., on January 11, while fighting the fire in this old wooden dwelling. The flames had started shortly after an oil cooking stove on the first floor had been lighted.

Many fatal fires this winter have been due to faulty operation of oil stoves and space heaters. Fire chiefs complain that householders fail to appreciate the importance of proper maintenance of oil burning appliances.

LL BY FIRE

In most cases the deaths occurred before the fire department could arrive; in others, even before the alarm was sounded. In many instances the finest of fire protection equipment was on call and trained fire fighters were available. Both were helpless in the face of flammable construction, inadequate exits, and internal fire hazards.

Many of the fires occurred, of course, in unprotected rural areas where the inhabitants had little instruction in fire prevention and safety. Many rural homes have been built without the safeguards provided in modern building regulations. Some are jerry-built and include improperly arranged heating equipment, defective chimneys and flues, combustible roofs and other such hazards.

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In a general alarm fire in Portland, Maine, on January 7, four people failed to escape from this wooden apartment building. Two occupants broke their necks jumping from upper floors, and one man tossed his infant son to safety.

This is another instance where structural conditions resulted in death for the occupants, in spite of an excellent fire department and an alarm box directly across the street. Building Inspector Warren McDonald termed the fire a final answer to critics who had contended that the city building code was too severe. The building was built before the code was adopted.

In this brick bungalow, just outside Chicago's city limits in Summit, Ill., four children died in an early morning fire on December 18. Many such fatalities in dwellings occur while the occupants are asleep. Frequently during the extreme cold weather all windows are closed and the victims are suffocated before the fire is discovered.

Chicago Daily News

In St. Louis, Mo., four people, including a fireman, died in an early morning fire, on January 27, which gutted the four-story Alpine Hotel. Powerful turret nozzle streams and aerial ladders controlled the flames but too late to prevent loss of life.

Acme

10 Die in Kansas City, Mo. Apartment House Fire

Five children and five adults died in the early morning fire that swept this twenty-eight unit apartment house in Kansas City, Mo., on January 27, driving seventy residents into the cold. Firemen assisted some twenty-five persons from the building. Others escaped by jumping from the vertical fire escape. It was reported that two victims burned to death behind ground floor windows barred as a burglar precaution.

The building was only partly of brick masonry construction. It had once been a private residence and, with a three-story addition, later served as a hospital. Vertical steel ladders connecting from balconies provided for fire escapes, but they came far short of meeting N.F.P.A. building exits code requirements for outside stairs in existing buildings lacking satisfactory interior exits.

In Kentville, Nova Scotia, five persons were dead and three others seriously injured when a one-story frame dwelling burned to the ground on January 14.

At 7 A.M. the owner arose, put coke on the stove, and left for work, leaving the eight other occupants of the house asleep. At 8:10 a boarder with the household observed flames and upon opening his door, was blown across the room.

The Kentville Fire Department under Chief Ralph Walsh drove a mile up an icy hill and pumped water through 2500 feet of hose to reach the fire. A forty-mile-per-hour wind and a temperature three degrees below zero were other adverse factors.

The Provincial Fire Marshal's investigation disclosed that the five lives were lost before the alarm was telephoned to the fire department.

A tenant cleaning paint brushes with a flammable liquid near a hot stove caused one death and a two-alarm fire in Renssalaer, N. Y., on January 10. The liquid ignited and the man hurled the flaming container onto the back porch, hitting his wife. On the porch was a 55-gallon drum of kerosene which caught fire.

A restaurant, tavern, and other apartments were involved in the resulting fire.

In the history of Glenwood Springs, Colo., no fire has equaled that of December 14 in the Glenwood Hotel block. Two occupants were trapped and burned to death. A third died of injuries sustained in a jump from a third-story window. A number of others jumped into a fire department life net, but several of them were injured. Three unidentified bodies were removed from the ruins.

The fire apparently started from an overheated furnace beneath a department store tenant.

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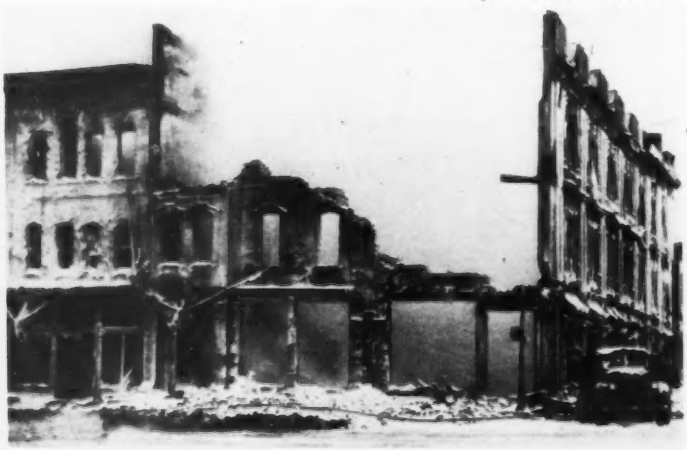

13 Die in Home for Aged in Garfield Heights, Ohio

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Low Building Height Failed to Provide Sufficient Safety where Occupants Were Aged and Infirm.

THIRTEEN elderly people died in a fire of undetermined origin that swept through Jennings Hall, a Catholic home for the aged in suburban Garfield Heights, near Cleveland, Ohio, on February 2.

The fire started in a section housing men's quarters, a recreation room, and furnace. According to eye witness accounts, the fire spread through the building in approximately two minutes after an explosion was heard. Nuns, who were at prayer at the time, rang a warning bell and attempted to remove the patients.

The building was of somewhat rambling structure, one floor only above a high basement. The basement had brick exterior walls, but the rest of the building was of frame construction, forming an extensive fire area. There were no fire walls to confine the flames, even momentarily, to one section of the hospital.

The building appeared to have had a number of exits leading directly outside, but this safety provision and the one-story construction were not enough where the occupants were elderly, ill, or incapable of helping themselves. Little more than a shell remained above the basement level after firemen completed extinguishment.

One occupant reported that the first explosion seemed to have come from the attic. It may have been that fire due to defective heating equipment or chimney had built up heat in the attic space and was not discovered until a hot air explosion sent flames racing through the structure.

This serves as another illustration of the danger of permitting extensive areas of combustible construction for institutional buildings, even though building heights are low and numerous exits provided. Complete automatic sprinkler protection including attic areas is the best safeguard for helpless occupants of institutions.

HON. JAP FIREMEN

good acrobats but poor smoke eaters in 1895

From **The Japs at Home,** by Douglas Sladen

THERE may be an American fire engine in Tokyo — I never saw one, but if anybody wants what the Yankee calls "a high-toned contrast" he cannot do better than drop into the fire station at the back of the Grand Hotel, San Francisco, the day before he sails for Japan to see the men slide down the pole from the bedroom, and the horses harness themselves inside of a few seconds; and then, when he gets to Tokyo, go to the first good fire.

They have first-class fires in Japan. While we were in Tokyo there was a fire at Asakusa, one of the suburbs, which swept off 1,400 houses in one night.

The houses at Asakusa, since they are inhabited almost entirely by the poorer classes, do not amount to much. Fifty dollars would buy a good many of them, ground and all. They are merely wooden frames, with sides made of paper shutters, *shoji*, and wooden outside shutters to put up at night or in very rainy weather. The roofs are covered with the heavy channelled tiles in use all over Japan. It is almost impossible to take these fires seriously, as nearly all the houses are one-storied, and so flimsy that you can kick your way through them; a person could hardly be burned unless he were asleep.

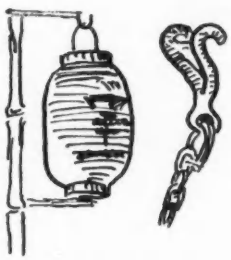
A two-storied house fire gives most fun, for it is here that the bamboo ladder and the Swiss milking pail come into play.

Every Japanese fire brigade conducted upon national principles has one or more ladders made of green bamboo, with their rungs lashed on — and the lashings very likely of paper twine.

These are used for acrobatic displays at the New Year festival and for fires. In the latter, if the fire is not too dangerous to be tackled, the ladder is propped against the roof. One man mounting it stands on the roof, and one or two more stand at arm's-reach intervals on the ladder. Half a dozen others bring them buckets which look like Swiss milking pails and hold about a gallon of water each. These are passed up and emptied by hand.

This does not, as might have been supposed from a study of the Japanese, constitute the whole fire-subduing apparatus. There is a native fire engine, a water *kago*, looking like a water trough fitted with a lid, and staves for carrying it. It would go inside the average Saratoga trunk, and it is fitted with a bamboo pipe and nozzle through which water can be squirted, but without the power or the volume of a garden hydropult.

A man runs in front of this *kago*, ringing a bell or blowing a horn, because the population are not supposed to be able to take care of themselves in the matter of being run over. It is usually escorted by a number of firemen with fire axes, which are bamboos about six feet long



Fire companies always carry lanterns on long bamboo poles. The hook, attached to a chain, is for tearing down buildings.

with a little pick or hook for a head. The fierceness with which the Japanese can contest the flames may be gathered from the fact that they wear cotton dresses and carry paper lanterns. They also carry a huge paper standard to every fire, shaped like an orange, about a foot and a half in diameter, stuck on the end of a six-foot pole. This is planted at a respectful distance from the fire, and the firemen generally stand by it till the fire has burned itself into reasonableness. It is white, and has the crest of the guild painted on it in black.

The fire station is like any other Japanese house of the poorer sort. It has a look-out, which is a tall pole, ascended by a bamboo ladder, with a sort of cask at the top for the watchman to stand in, and big alarm bell for him to ring. Very often it will be only a tall ladder planted firmly at the bottom and rising perpendicularly into the air, with a bell hung at the top.

Henry Savage Landor, the artist, had a risky adventure with the Japanese firemen. Mr. Landor was an ardent "realist," he exposed himself to any danger or privation to secure subjects not previously handled by artists. He was staying at Ozaka (Osaka), the Liverpool of Japan, at the Jiyutei Hotel, when he was aroused by the landlord who told him that the neighboring houses were on fire,

Twentieth century Japanese firemen, side by side with their U. S. Marine Corps conquerors, try out American fire fighting equipment on a fire at Camp Scott, Kyushu, Japan.

Official Marine Corps Photo

and that no one ever knew where a Japanese fire would stop. Mr. Landor leaped into his clothes to impressionize for his sketch book, a real Japanese fire. He got there before the firemen, and busied himself with sketching the frightened people pouring out of their houses, carrying all their worldly possessions on their backs. One of the houses must have belonged to an old *samurai*, or fallen *daimio*, for there was a woman hurrying along with the two fighting swords, once the insignia of gentle birth, and a tea chest-shaped box of armour, such as had gone out of use with the Revolution of '68. Close by, a couple of coolies were carrying, strung on a pole, one of the beautiful, black lacquer chests,

Japanese firemen going into action. In one Japanese village, a boy is sent out through the streets at stated intervals all night long. Tied behind him are three hardwood boards of varying sizes which clap together with a loud noise. This is to warn the inhabitants to tend their fires and see that they are banked properly for the night.

ornamented with gilt brass, used by the daimio for clothes or armour.

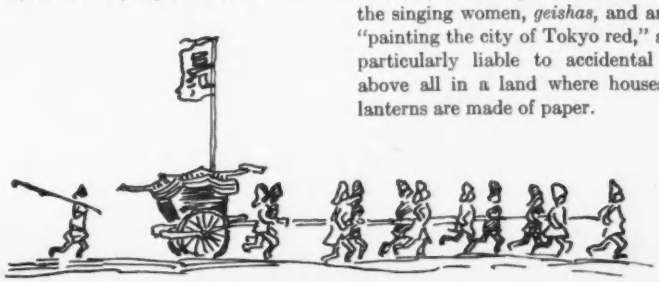
Presently the firemen came along, with an excited chatter that could be heard a quarter of a mile off. In front came the paper standard, and behind, a bristling array of paper lanterns on poles, bamboo ladders, and fire axes. The houses by this time were burning so fiercely that the doughty firemen were afraid to tackle them. Mr. Landor, sketch book in hand, seized a ladder, and propping it against the nearest two-storied house, mounted the roof.

In his enthusiasm he did not notice that the Japanese firemen had become alarmed for the safety of their ladder and carried it off. He was brought back to considerations mundane by the tiles proving too hot to sit upon. He yelled to the Japanese to bring the ladder back, but none of them had the pluck. As the flames were beginning to break through the roof, he had to jump from the roof.

The firemen's great day out is on the fourth day of the New Year festival, when they go in procession through the principal streets of Tokyo. Each guild goes about separately, with its paper banner in front, its coolies in new dresses of dark blue cotton, the tunic with a marvelous red or white design on the back (the guild badge), and tight-fitting hose. At intervals they halt, rear one of the tall, green bamboo ladders perpendicularly in the air, and crowd around, helping to hold it up or steady it with their fire axes. Then they ascend in turn and acrobatise on the top. The performer will one minute be standing on his head on the top of one of the uprights of the perpendicular ladder, and the next, supporting himself stiffly out at right angles to the ladder.

There has been one historical fire in Japan, which in point of mortality probably put even the Great Fire of London into the shade. Though it seems incomprehensible that anyone could be burned in a low, flimsy affair like a Japanese house, over 100,000 persons perished in it.

It occurred a century or two ago in that hotbed for fires, Asakusa. This is the quarter to which the gay women are confined, much frequented by their rivals, the singing women, *geishas*, and anyone "painting the city of Tokyo red," and is particularly liable to accidental fires, above all in a land where houses and lanterns are made of paper.



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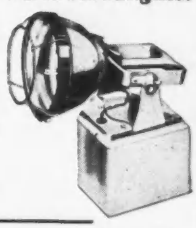

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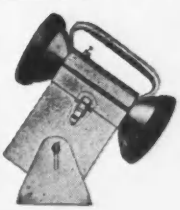

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An Experimental Pumper Relay

By Chief Charles E. Quinn
Johnston Hose Company No. 3, Manton, Rhode Island

EDITOR'S NOTE: Here is a suggestion from the chief of a fire department that has done a lot of relay pumping. It should open up a considerable field of thought and experimental practice. For example, where the last engine in a relay is a water tank unit, the provision of such a relief valve set at proper pressure may prevent damage to the tanks or overflow of water.

It will occur to some readers that the pressures provided by the relay described by Chief Quinn were quite high for supplying a stream through a ¾-inch nozzle. The burst hose from excessive pressure might be anticipated when a smaller capacity fog nozzle was substituted. The pressures were about right for a 1-inch tip discharging upwards of 200 g.p.m. It is probable that with the ¾-inch tip, three engines would have been ample for the 6,000-foot line. However, with the relief valve provided there should be no objection to having extra pumpers in line, for should one fail, it could readily be by-passed. What are your ideas?

RELAYING water through hose lines ranging from 2,000 feet to one or two miles in length will always be a problem for the rural fire chief. Mutual aid from different departments using different methods are liable to add to the problem.

As a member of the Engineering Committee of the Woonasquatucket Valley Firemen's League, I have taken part in practice drills and have read the reports of many chiefs and engineers.

The Sunday morning drill is usually a very carefully laid out procedure with our best drivers and officers on the job. Everything goes swell, and we write our detailed report and feel very confident of the results. Then comes the unexpected call to use this layout at a real fire.

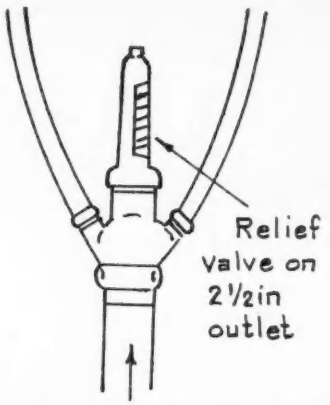
I recently conducted a relay using five engines and approximately one mile of 2½-inch hose. The engines were placed in position as they arrived in answer to a practice alarm. This resulted in a 500 g.p.m. centrifugal at draft, a 750 g.p.m. centrifugal and three 500 g.p.m. rotary pumps in tandem with approximately 1,200 feet of hose between engines.

The base pump operated at 150 pounds pressure and the other pumps maintained 20 pounds on the intake gauge. Using a ¾-inch tip we had a good fire stream.

However, upon changing to a low velocity fog nozzle requiring a smaller discharge of water, things began to happen. We burst two lengths of hose and the operators had some difficulty in making corrections to the proper pressures required for the decreased flow. In fighting a real fire, changing from solid stream to fog, or if inside a building, shutting down a line is a necessary procedure.

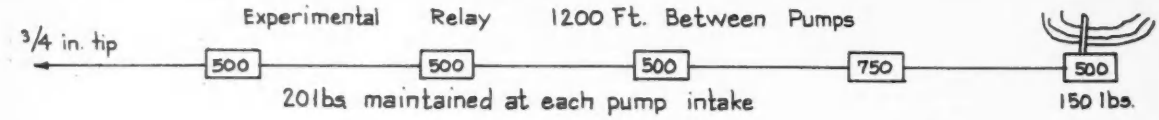
I offer a suggestion that is in no way original, but which makes a relay foolproof against engine or operator failure and which enables the officer at the fire to shut down or change streams at will without the danger of burst hose.

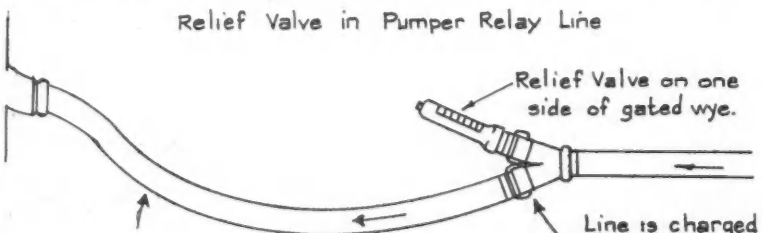
At the end of my 1200-foot line of 2½-inch hose I inserted a gated siamese. On one outlet of the gated siamese I placed a relief valve set to discharge water from the line at 75 pounds. This pressure is optional, but the 75-pound relief valve was available at the time.



Water thief supplying two 1½ inch lines.

The other outlet of the siamese is connected to the next engine in line. If this engine immediately ahead fails for any reason, the valve operates discharging water out of the system, preventing excessive pressure from building up in the hose line. Insert a valve ahead of each engine and you may operate your nozzle at will.




Relief Valve in Pumper Relay Line
Relief Valve on one side of gated wye.
Suction hose or supply Line to next pumper
Line is charged to gated wye before next pumper arrives

This arrangement also speeds up the organization of the relay, because as fast as the line is laid it is charged up to the next relief valve. As each subsequent pumper arrives it connects into an already charged line. Thus when the last piece of apparatus arrives that is to supply the nozzle, it connects into a line already maintaining 75 pounds pressure. Where enough pumpers are on hand, the pump at suction does not stop to lay any hose but is spotted to take suction with subsequent pumpers laying out from that point. If reverse hose loads are encountered, double couplings are used.

The relief valve can also be used near the end of a line just outside the building in conjunction with a water thief supplying two 1½-inch lines. Thus men on the second line are protected against sudden pressure if one line is shut down quickly.

The list price of the valve was less than $20, which I feel is very cheap insurance as a protection for hose and as a guard against personal injury.

If this suggestion merits your consideration or criticism please reply via our FIREMEN magazine.

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What Is Fire Fighting Equipment?

Reprinted from **Forester Fire Protection Notes** by permission of the publisher, Western Fire Equipment Co.

RECENTLY we had an opportunity to sit in on a field discussion of fire fighting equipment. Grouped around a camp fire after chow, it was possible to review the activity of one day at a Fire Control Training Camp. Of the various subjects which came into the picture, one impressed us as having exceptional merit. This dealt with speculation on the why and wherefore of fire fighting equipment. The interest of the group in this question suggested that the subject had greater universal appeal than had been assigned to it in the past, particularly since there is an inclination on the part of some organizations to adopt substandard equipment produced in the early days of the OCD. There is no intention here to argue the merits of the latter question but rather to point out some of the things which experience has shown to be necessary to sound management and efficiency in every emergency-type organization.

The popular conception of fire fighting equipment is well groomed, properly designed, red painted units which are maintained at peak efficiency. It is what the public pays for and has a right to expect, in spite of the schools which consider these factors relatively unimportant. Quite often, necessity requires that unusual steps be taken to handle a situation. Frequently there is resort to expedients which, because of peculiar circumstance, prove valuable even though they would be hopelessly inadequate under normal conditions. But there is danger when such success prompts others, not too well informed, to consider seriously the substitution of inferior devices on the theory that they should perform as well under all conditions because of prior achievement.

Qualitative standards, established after years of experience on the part of designers and practical field men, cannot be so easily eclipsed without danger to the organization which attempts it. It would be a courageous character who would argue that a pumper unit placed on a dump truck would receive the same degree of maintenance or inspire the same pride of association as a properly designed and outfitted fire suppression pumper. The fact that the two types perform equally well when new has little bearing on the question. Before long the ersatz unit will reflect the attitude of the crew.

There is nothing particularly new about this problem, even though it appears in new guise when associated with new ideas. Of greatest interest is the fact that it re-appears every time informal discussions center on equipment. Accepting the general idea that fire fighting equipment must conform to definite qualitative standards to meet the requirements of the job, it is a logical step to recognize the importance of the intangible human factors on which depend the degree of success. No person seriously questions the designer developing a bulldozer to do a specified job, and neither would any person expect an operator to work with the machine without some training. Is fire fighting equipment essentially different or is it just that no definite standards have been set up which require a measured degree of success in each performance? Something like 94 per cent of all fires in the United States are controlled while small. Is there weakness in the fact that action on small fires seldom is analyzed with a view toward measuring or improving performance? In the same breath, how can deficiencies be uncovered or improvement effected without qualitative analysis which quite obviously includes equipment? True, a few organizations recognize the potential values at stake and guide rather than follow the trend.

War activity has emphasized the need for specialization in the way of equipment and techniques for the fire service. Army and Navy Fire Training Schools have developed programs which teach the fire fighter to depend on definite types of equipment to do a specific job. Spray or fog equipment is used only when and where it will do most good. The same can be said for solid streams, foam and other extinguishing agents, all of which have a clear cut part in the suppression picture. Compare this with the rather general views entertained by most prewar organizations. An unbiased appraisal comes up with one conclusion only — that the armed forces, in spite of handicap, have made progress in a direction which has been sadly neglected by civilian groups.

While personal experience is an excellent guide, usually it is better practice to observe and profit by the experience of others, even though it might not seem original to follow the beaten path. This was the course followed in the armed forces, and results suggest that it might well be adopted by other groups. First and foremost, the crews were equipped with devices and units which were definitely recognized as fire fighting equipment. There was recognition of the fact that very few men will exert themselves to maintain proficiency unless they are so equipped. It was a necessary concession to the same vanities of man which causes him to throw out his chest as soon as he dons a uniform. Maintenance was keynoted by daily grooming, inspection and testing of all equipment. Peak efficiency was maintained by the simple combination of personal pride in the equipment and the knowledge that with it no problem was unsurmountable.

There is another view of the problem, chiefly concerned with expediency or what to first glance appears to be economy. In quite a number of cases,

Continued on page 32

Whereof we speak . . .

AUTOMATIC ALARM SAVES PLANT—*FIRE CHIEF PRAISES*

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WAUSAU, WISCONSIN

October 19, 1945

OFFICE OF
ARTHUR A. BUSS
WAUSAU FIRE DEPT.

The American District Telegraph Company

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Yours truly,

Arthur A. Buss

Arthur A. Buss, Chief
Wausau Fire Department

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Making a Good Job of It

By Warren Y. Kimball

Effective First Aid Streams for Saving Life

MAJOR fires continue to take a heavy life toll in homes, apartments, hotels, tenements, hospitals and convalescent homes in various parts of the United States and Canada. Many experienced authorities in public fire protection are viewing with serious concern the apparent impotence of many otherwise powerful fire departments when suddenly confronted by a major fire where lives are at stake. Fire departments may be well equipped with aerial ladders, water towers, turret nozzles, and rescue devices, but all too often the fire situation is beyond the resources of even the first companies to arrive. By the time sufficient help has arrived, ladders raised and effective streams placed in operation, lives have been lost. In the critical moments when victims are screaming from windows or are trapped in interior rooms and corridors on upper floors, the firemen who are just on the scene are appalled by the urgency of a dozen life-saving tasks to be performed simultaneously.

Engine company men must be detailed to under-manned ladder companies. Hose lines, needed at stairways and other critical points to hold avenues of exit or rescue, are fatally slow in getting water as flames roar upward taking their toll.

Perhaps there are not enough men to make a quick hook-up. Hydrants may be obstructed by snow and ice. At best the much needed 2½-inch "big line" is not a quick first aid device. On the other hand, the booster line, one of the most useful tools of the fire service, may be impotent against the raging flames of a major fire.

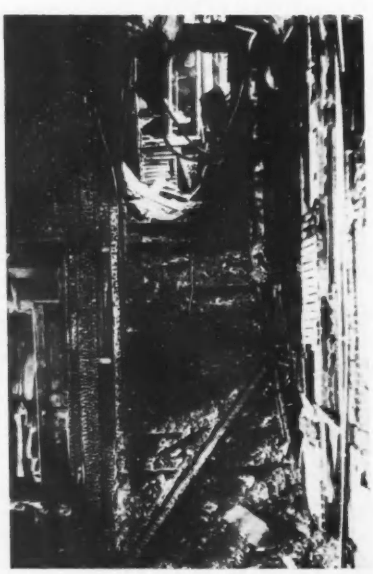
Fire protection engineers tell us that lives would not have been snuffed out with such tragic suddenness in recent fatal fires had stairways been enclosed or had much needed automatic sprinklers been provided. The fire ground is no place for second guessers. The fire fighter falls heir to the emergencies created by other men's neglect. He must get the people out at the risk of his own life . . . but how?

Many thoughtful fire officials have come to the conclusion that one thing that is needed is a first aid stream with something nearer the effective punch of a big line than can be provided by the small booster hose. They point out that the booster line throws only a twentieth to twenty-fifth as much water per minute as the big line. Several of the largest fire departments in the United States have never adopted the modern booster line with all its advantages of speed and easy handling. They fear that it would prove inadequate in critical situations and give fire a chance to get out of control. They insist on nothing less than 1½-inch lines backed up with big lines.

Very few well run fire departments using booster lines successfully will permit their use in building fires unless backed up by larger capacity lines. One of the leading fire chiefs of the United States recently made the observation that he would never permit one line alone of any size to be run in his department. Where one line is required, two are laid just in case something goes wrong at a critical time.

The problem of finding a more effective first aid hose for fires where lives are at stake was discussed in some detail in *Volunteer Firemen* (see February 1939, page 3). A solution, tried and recommended by a number of fire departments, has been the provision of lines of 1½-inch hose carried connected to the booster tank supply, backed by a booster pump of adequate capacity.

Typical open stairway after fatal fire swept upward



Most postwar fire apparatus, and much of the latest pre-war apparatus, has been designed with larger booster tanks. Tanks of 250- or 300-gallon capacity are not uncommon. Even a 150-gallon tank will supply a good stream from 1½-inch line for almost three critical minutes. This may permit hosemen to hold stairways and corridors open for rescuers while big lines are being connected. In many instances the 1½-inch lines will be adequate to bring the fire under control.

Another advantage of 1½-inch first aid lines, in addition to speed and effectiveness, is that one or two men can get such streams in operation almost immediately.

The wartime experience with the use of nozzles that are capable of providing both protective water fog and straight streams should have special application in the life saving field. A curtain of fog may give the rescue crews the protection they need to get the trapped people out of the building, as well as help check the fire.

Many of the larger fire departments with powerful water facilities available have not had the occasion to learn as much about the value of 1½-inch hose as some of the smaller departments that depend chiefly upon water tank supplies. In fact, a number of large city departments think of the 1½-inch hose chiefly as a tool for watch lines after big lines are shut down. However, while deluge sets or turret nozzles may be able to knock down a five-alarm fire in half an hour, it takes time to set up such streams. A 50 g.p.m. first aid stream that holds a fire in check until adequate help arrives and makes rescue possible should be a part of the fire equipment of any community that has major life hazards to guard against. All too often second and third alarms are sounded for fires involving loss of life, although it is obvious that the victims will be beyond help before more distant fire companies can arrive. In countless cases seconds are saved by getting effective first aid streams in operation from booster tanks. These, while the big lines are being laid, will snatch lives from the flames that might otherwise be lost.

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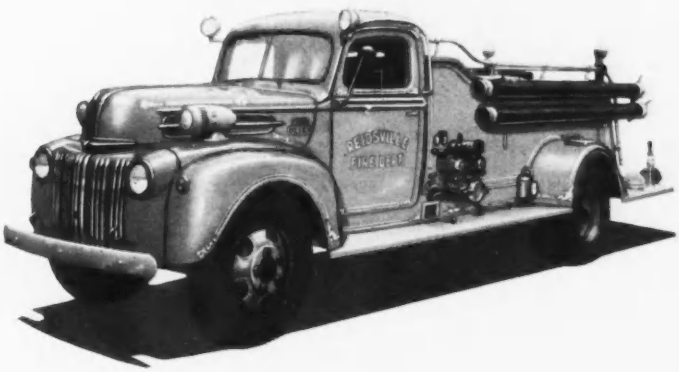

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NEW JERSEY COUNTRY CLUB FIRE

CHIEF JONATHAN F. COX of the Haddonfield, N. J., Fire Department reports an interesting fire which destroyed the Tavistock Country Club in the Borough of Tavistock, N. J., on December 29. Tavistock has no fire protection and depends upon neighboring communities for assistance.

"We were the first department in, receiving the alarm at 5:20 A.M. Saturday morning December 29. The night watchman smelled smoke about 2:00 but thought that it was just the odor from the open fireplace that had been used earlier in the evening. Around 5:00 the watchman discovered a small fire in the ladies lounge and attempted to extinguish it with two soda-acid extinguishers. After failing to extinguish the fire, the watchman then called two employees that were sleeping in the club house. After that he called two guests that were boarding in the club. The cook (one of the sleeping employees) was the first to call the fire department.

"The fire started at the fireplace and spread through the basement up through the partition, under the floor to cockloft and then out through the roof. Fire was beyond control when we received alarm.

"There were no cut-offs, fire walls, fire doors or protection against exposure.

"The safe and vaults were located on the first floor and fell to the basement during the fire. After the fire, they were cooled off and opened but the contents were destroyed.

"As the club house was not in our borough limits they did not call us for inspections at any time. The only first aid appliances were two soda-acid extinguishers and several of the ball type carbon tetrachloride extinguishers. It was interesting to note that several of these did not work, even though the fire was all around them. During Fire Prevention Week, Ex-Battalion Chief Rowe, of the Philadelphia, Pa., Fire Department, and I inspected the club house for my own information and not at the request of the management.

"There were two hydrants near the building fed by a 6-inch main.

"It was impossible to salvage anything as the fire spread so rapidly. We stopped the fire at the grill of the building and salvaged the property in that part of the building.

"At the time of the alarm the temperature was about 35 degrees above zero and a rather heavy rain falling. This rain hampered rather than helped extinguish the fire. There was also a northeast wind of about 30 miles per hour."

Former Tavistock Country Club, Tavistock, N. J.

Somerville, Mass., Battles Cellar Fire

CHIEF J. C. McNALLY, Somerville, Mass., Fire Department, reports an extremely difficult battle with a fire starting in a basement of a cafeteria in the Union Square Building at 1:47 A.M. on January 31.

The basement area was 50 feet x 50 feet in size and flames were in full control of the entire cellar upon arrival of the first apparatus. The cellar contained considerable combustible material and included a large gas meter and two 275-gallon fuel oil tanks, one of which was found to have a ruptured pipe. There was also a large grease duct which ignited and caused fire to spread between ceiling and floor.

There were no cut-offs between the cellar and first floor. A narrow, unprotected stairway permitted upward spread of fire but gave insufficient entry to fire fighters. An open dumb waiter shaft and unprotected pipe recesses also permitted the fire to spread upward. Cellar pipes were placed in operation at front and rear, and lines were operated to cover shafts around the stairs and dumb waiter. The fire department opened the metal ceiling, operating lines therein, and three lines were sent to the second floor where flooring and side walls prevented further upward extension of the fire.

Chief McNally points out that the construction of the cellar windows prevented successful operation of the cellar pipes and suggests that sufficient clearances should be maintained between cellar window casings and floors to permit operation of cellar pipes to protect basement ceilings, rafters and flooring.

"Two-Way Radio"

TWO-WAY RADIO is the title and intriguing subject of an interesting book by Commander Samuel Freedman, USNR. The book, published by the Ziff-Davis Publishing Company of Chicago and New York, embraces more than 500 pages covering all aspects of two-way radio, including a special chapter on police, fire and forestry use. The text is one that many fire departments will want to have in their library, because it will provide interesting reading on a subject dear to the hearts of many fire company members. The text discusses all frequency bands, including the very low and super high. The equipment described ranges from five kilocycles to beyond 10,000 megacycles. Also included is a thorough description of induction radio and carrier current communication technique.

The two-way radio field has been expanding rapidly as it emerges from wartime application to peacetime utilization. It is believed to open up a multi-million dollar field for business and perhaps over 100,000 new jobs in the years immediately ahead. On May 25, 1945, the FCC legalized for civilian use the new frequency spectrum developed in World War II that has increased by over 300 times directly the channel space available for two-way radio communication.

In the chapter on police and fire department use of two-way radio, it is pointed out that radio in fire fighting is a means of increased efficiency and of financial saving.

Firemen in New York Cities to Work Fewer Hours

A SIXTY-HOUR WORK WEEK was decreed for the Buffalo, N. Y., firemen by a unanimous vote of the city council, according to *International Fire Fighter*.

Under the new system, no member of the fire department works more than 120 hours in any fourteen-day period.

THE three-platoon system of forty-eight-hour duty has recently been established for the Lackawanna, N. Y., Fire Department (member N.F.P.A.).

As enacted by the Common Council of the city of Lackawanna, the law reads: "The officers and members of the Lackawanna Fire Department shall be limited to forty-eight hours of duty in each calendar week with the reservation, however, that in the event of conflagration, breakdown of essential public service, or other major catastrophe endangering the lives and property of the citizens of the community the members of the Lackawanna Fire Department will be subject to continuous duty during such emergency."

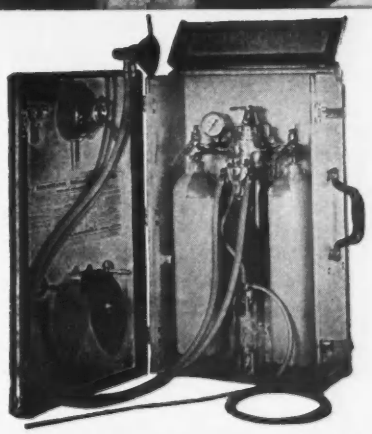
A RECENT *News Letter* of the Uniformed Firemen's Association of greater New York reports that the wartime two-platoon system (eighty-four-hour week) which replaced the normal three-platoon system in New York City, due to manpower shortage, was due for modification on or about February 1.

Some companies and officers having a modified three-platoon system whereby men perform added duty will remain in that system. It is hoped to restore the regular 3 platoon system about July 1.

WHEREVER YOU FIND LIFESAVING AT ITS BEST

You'll find

The E & J RESUSCITATOR INHALATOR and ASPIRATOR



The E & J Resuscitator enables you to treat EVERY case of Asphyxia safely and effectively. Severe burns, broken back, fractured ribs, internal injuries, pregnancy, etc., are no hindrance to successful and safe artificial respiration when you employ this modern automatic breathing machine. It is now being used in a large majority of the leading industrial plants, hospitals and by countless fire departments.

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Firemen's Training Notes and Schools

Indiana. The Public Safety Institute at Purdue University has announced in its Indiana Fire Service Bulletin that a special Instructors' School has been scheduled at Purdue for March 4–6 to train fire department instructors in aircraft fire fighting. The school curriculum will include information on aircraft construction, forcible entry, fire fighting, airport hazards and fire prevention. The school was scheduled at the request of the Indiana Aeronautics Commission in an effort to provide greater fire safety for 160 airports in the state. Instructors attending the school will be qualified to give information for training of airport personnel in fire control. Instructors will also be qualified to train their own departments and seals will be issued for Indiana Fire Service Training School certificates.

Last year Purdue University staged the first Arson Investigation and Detection School for fire marshals, arson investigators and other fire and police officials. This school was so enthusiastically received by 137 enrollees from seventeen states that it is to become an annual affair. The Second Annual Arson Investigation and Detection School will be held at Purdue University, West Lafayette, Ind., under the sponsorship of the Fire Training School and cooperating agencies. The dates have been set for April 8–10. Anyone that has attended the Purdue fire schools will know that this will be a program that cannot be missed if he wants to know all the tricks of catching the firebug.

Nebraska. The January *News Letter* of the Nebraska State Volunteer Firemen's Association reports progress in efforts to develop a special Fire School Fund for the state. Each Nebraska Volunteer Fire Department has been requested to contribute at least five dollars toward the cost of the fire school program which has not had adequate support in past years. The fund is to be used to finance the spring fireschools in various parts of the state.

New Jersey. The Pyrene Manufacturing Company plans to conduct a fire safety college for New Jersey firemen, in May and June, 1946. Sponsors of the college will be the Newark Safety Council, the Newark Fire Department, the Fire Fighters' Club of Northern New Jersey, the New Jersey State Firemen's Association, and the New Jersey Fire Rating Bureau.

Tentative program subjects include: chemistry of fire, the postwar fireman, fire gases, automatic sprinklers and the fire department, magnesium and other metal fires, fire hazards and classifications of building materials, fire extinguishers and chemical fire extinguisher systems, airplane crash fires, hose, hose loads and streams, flammable liquids, electrical hazards and static electricity. There will also be an outdoor demonstration of hose and ladder evolutions, methods of escape, fog nozzle and air foam demonstrations, pumper demonstrations, aerial ladder demonstrations, display of all types of fire equipment, metal fire extinguishment demonstrations and first aid team demonstrations.

Coming Events

March 4-6—**Ind.**, West Lafayette, Purdue University. Instructors' school in aircraft fire fighting.
April 8-10—**Ind.**, West Lafayette, Purdue University. Second Annual Arson Investigation and Detection School.
April 23-25—**Nebr.**, Grand Island. Nebraska State Fire School.
May-June—**N. J.**, Pyrene Mfg. Co. conducts a safety college for New Jersey firemen.
May 13-15—**Minn.**, Minneapolis. Northwest Fire School.
May 13-15—**Ore.**, Seaside. Conference and fire school of the Oregon Fire Chiefs' Association.
May 13-18—**Ont.**, Toronto. Provincial Fire School.
May 21-24—**Iowa**, Ames. Iowa State Fire College.
June 4-7—**Mass.**, Boston. 50th Annual Meeting of the NFPA, during which the Firemen's Training Committee will meet.
June 18-21—**Ill.**, Champaign. 22nd Annual Illinois Fire College.
June 22—**N. Y.**, Elmont. 43rd Annual Tournament and parade of the Nassau County Firemen's Association.
June 25-27—**Mich.**, Ann Arbor. Michigan Fire College.

Chief Connie O'Sullivan of the Memphis Fire Department, Deputy Chief Svenn Sonnenberg of Malmo, Sweden, and Emmett Cox of the Western Actuarial Bureau, Chicago, conferred at the Memphis Fire Department Instructors' Conference last January.

New York State Firemen's Training Controversy

A MEETING of the Legislative Clearing House of the Firemen's Association of the state of New York was held at Hudson, N. Y., during December. Upward of two hundred delegates and representatives from fire departments and companies reviewed twenty-one legislative proposals.

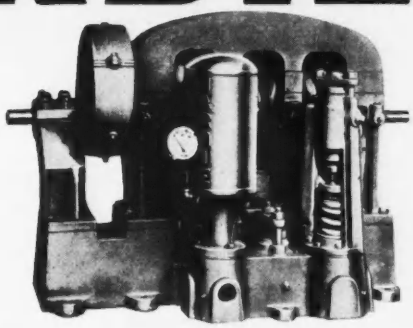
The most important matter to come before the meeting was the subject of firemen's training. The training program established by the State War Council and successfully operated under the Bureau of Public Service Training of the State Department of Education was abruptly discontinued in April 1944, since which time the state of New York has been without any state wide fire training. For a year and a half after the abolition of the state fire training program, numerous requests were made of Governor Dewey that the program be revived but the Governor made no reply to these requests. Finally, at a meeting of the Executive Committee of Firemen's Association of the state of New York on October 6, 1945, a resolution was adopted for the appointment of a committee, to be composed of Republicans, to confer with Governor Dewey in an effort to secure an adequate fire training program under the direction of the State Education Department.

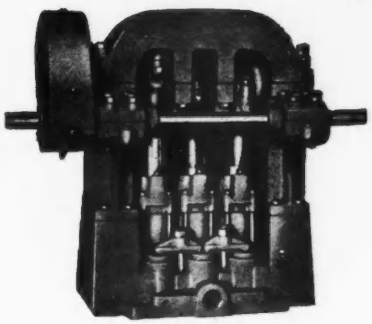
This committee visited Albany on November 23, 1945, to confer with Governor Dewey, but the Governor was not available. A conference was had with Paul Lockwood,

Continued on page 28

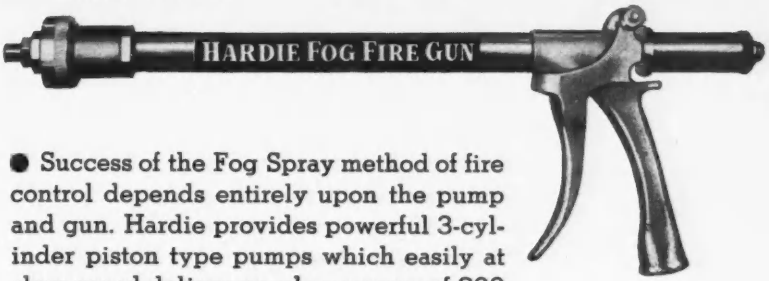
HARDIE PUMPS & GUNS ASSURE DESIRED RESULTS

This Hardie LCXA pump delivers 60 gallons per minute at 130 R. P. M. with nozzle pressure of 800 P. S. I.



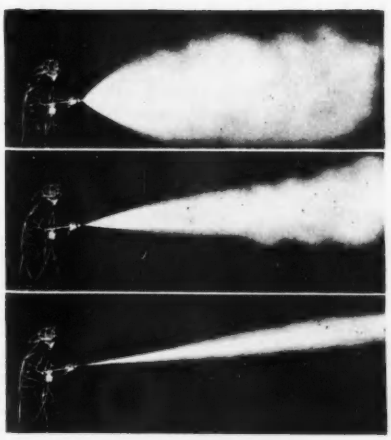


Above the Hardie XCXX pump delivers 35 gallons per minute at 118 R. P. M. with nozzle pressure of 800 P. S. I.



● Success of the Fog Spray method of fire control depends entirely upon the pump and gun. Hardie provides powerful 3-cylinder piston type pumps which easily at slow speed deliver nozzle pressure of 800 P. S. I. The Hardie Fog Fire Gun produces a true fog—there is no splatter. All the water passing through the gun is completely atomized delivering the maximum of fire control efficiency. By mere pressure of the fingers the operator can change the character of the application from true fog, to intermediate—blended fog and spray—or to a solid driving stream of terrific impact.

Leading manufacturers of Fog Fire Fighters equip their units with Hardie pumps and guns. Specify Hardie pump and gun equipment when you buy a Fog Fire Fighter or convert an old truck.



THE HARDIE MFG. COMPANY

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High Pressure **PUMPS AND FOG GUNS for Fog Fire Fighters**

Lead Your Community in Spring Clean-up

AS a leader in methods of fire prevention you, the fireman, can perform a valuable public service by molding community thought during the spring clean-up campaign this year.

Spring is a season of fire hazards. Grass fires and other dry-weather dangers keep the fire department on the run.

But fires in or around the home in any season are largely unnecessary. Their cause is carelessness, negligence or just plain ignorance of fire prevention measures.

Community consciousness of fire dangers is the cure!

A clean-up week campaign can be of tremendous benefit to both the fire department and the community.

To the fire department, as a golden opportunity for public relations work, for reminding the citizens that you are right in there pitching.

To the community, as a method of learning how to recognize, prevent and control both obvious and hidden fire hazards.

The annual clean-up drive is in the interest of general welfare. Cleaner homes, factories, stores, and streets are their own advertisement for any town or city and the fireman, just as any resident, wants to be proud of his home town.

He wants it to shine and sparkle just like the chrome-trimmed, red engine.

He wants the folks in town to know, too, that he's on the job—just as much in helping to prevent fires as in working to put them out once they've started.

There are several methods you, as a fireman, can take during this campaign to emphasize both to schoolchildren and to adults the importance of fire precautions.

The community-minded fire department can arrange to conduct a formal fire department inspection of mercantile, industrial and public buildings in the community. By this method fire officials can point out certain violations of good fire prevention practice and can make suggestions and recommendations for improvements.

Burning over open lots and fields should be allowed only by written permit of the fire department because of the hazards involved. Why not show the public how it's done properly?

The department could conduct a fire show at the station or in local halls and provide entertainment and exhibition work such as drills, hose rolling and coupling, axe work and life saving.

It would give the folks some idea of what goes on in a fire department. Aside from being an education in fire prevention, it would give them a better appreciation of the work and problems involved in extinguishing various types of fires.

The date for clean-up week is not set. It varies with individual communities. In the South perhaps it will be held in March, while in the North it may be conducted in April.

To advertise the campaign in your community, banners and signs might be displayed on fire apparatus during the week; and "before and after" window displays are effective in playing up the campaign.

A new clean-up week pamphlet, offering suggestions on how to conduct the campaign has been mailed to fire departments which are members of the N.F.P.A.

The pamphlet contains, besides publicity suggestions, a sample proclamation with which the mayor or city manager might inaugurate the program, and a sample home inspection blank that could be distributed to schoolchildren.

A week or two before the campaign the person in charge of publicity should consult with the local newspaper's city editor and local radio officials on a program of publicity for the campaign. Local news stories, editorials, "before and after" pictures, radio spot announcements and possibly an interview on the air with the fire chief will be helpful in publicizing the campaign.

Continued on page 30

WHEN EVERY SECOND COUNTS—FOR LIFE OR DEATH

Rely on

ARTIFICIAL RESPIRATION

Plus the H-H INHALATOR

American Medical Assn. ACCEPTED Council on Physical Medicine

When death threatens and breathing has stopped, trained rescuers start artificial respiration immediately, knowing the value of the precious remaining seconds in restoring life! The H-H Inhalator moves into the work of rescue as soon as applied, *without break in the established rhythm of artificial respiration*—speeds the victim toward recovery by supplying life-giving oxygen and stimulating carbon dioxide—naturally, gently, without pressure or suction. Write for Bulletin CA-9, or let us arrange a demonstration of the H-H Inhalator.

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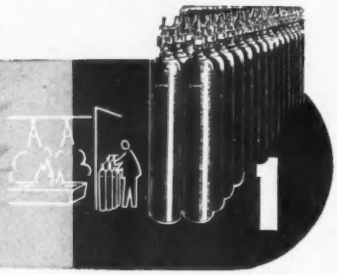
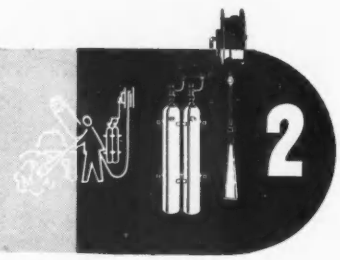
C-O-Two
MAKES FOUR POINTS FOR THE RECORD

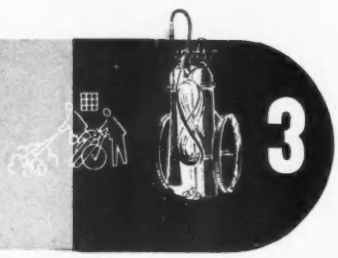
INSTANT ACTION against fire with the original C-O-TWO pressure-operated type, built-in system. Engineered to protect one or several spaces, electrical equipment, paint, oil, lacquer, alcohol and other highly flammable liquids and stored materials. Operated in combination with smoke detector and thermostat controls.



SIMILAR HAZARDS constantly vulnerable are adequately protected by C-O-TWO hose reel units ready for instant action with a fast uncoiling hose ready to blast fires with dry, sub-zero carbon dioxide gas, the fastest non-damaging, non-conducting, non-deteriorating fire extinguishing agent.



HURRY UP CALLS are covered by C-O-TWO wheeled units. Sturdily made of durable materials and easy to operate, fast and safe in single or double cylinder sizes equipped with adequate length of hose. Rolled easily and quickly by one man to scene of fire and take minimum space when not in use.



QUICK ON FIRE-KILL anywhere are C-O-TWO Squeez-Grip hand portable extinguishers. Always ready for use, no wheels to turn, no preliminary adjustments. Give instant action even while being carried by merely closing hand on the Squeez-Grip valve. Hand portables strategically placed can quickly kill many incipient fires.

C-O-TWO Kills Fire . . .
Saves Lives and Property

Write today
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Firemen's Training Notes

Continued from page 24

Governor Dewey's secretary. The report of the committee states:

"The conference continued for two hours during which time your committee vigorously pleaded for the re-establishment of the Firemen's Training Program under the State Department of Education. Your committee was informed that the State Administration is unalterably opposed to the placing of the training program under the State Department of Education. Your committee was informed that the Governor is in full sympathy with the aims and the need of a permanent training program for volunteer firemen but believes such a program can be most effective in its purpose under the Executive Branch of the State Government."

The report of the committee further stated that the Governor and his staff had given serious and continuous thought to the subject of fire training and had prepared a program which was outlined in the report. The committee stated that it was of the opinion that the Executive Committee of Firemen's Association of the State of New York should recommend to the Legislative Clearing House approval of the training program as proposed by Governor Dewey. The committee's report was considered by the Executive Committee at a meeting held the night before the Clearing House met and a resolution was unanimously adopted stating that the Executive Committee did not approve of the plan submitted.

The report of the committee on fire training and the resolution adopted by the Executive Commmittee were read at the Clearing House meeting in connection with the consideration of the following proposal:

"Demand the resumption of a fire training program for the firemen of the state of New York under the State Department of Education through its Bureau of Public Service Training that will be adequate, suitable and satisfactory to the firemen of the State, such a training program being deemed absolutely necessary in order to provide and maintain better and more adequate fire service to the public of the state of New York."

Considerable discussion followed, in the course of which it was brought out, among other things, that thirty-four states have fire training programs and in almost every state the program is under the auspices of the State Education Department or the State College and in no state is there a fire training program under the Executive Department. It was the consensus of the speakers that fire training is an educational function and that there is no more reason for placing the teaching of fire training under the Executive Department than there is for assigning to the Executive Department the teaching

Continued on page 55

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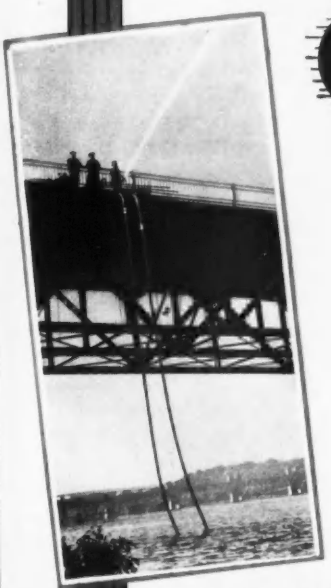
SPECIFY A HI-LIFT ON YOUR NEW TRUCK

$165

CHAMPION HI-LIFT SUCTION BOOSTER



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Increases the Drafting Capacity of Any Pump from 20 to over 100 feet.

With It — Any Pumper Will Lift Water in Fire Fighting Quantities Over 100 feet.

Nothing to clog the Hi-Lift Suction Booster — the inlet is protected by strainer which is integral with the unit. Nothing to wear out or lose efficiency — you can use it indefinitely for heavy duty pumping.

Easy and simple to use. Anyone who operates a pumper will get maximum efficiency and results out of the Champion Hi-Lift Suction Booster.

Its operation and performance are based on sound, basic principles of hydraulics, applied successfully by Darley engineers to a problem which often forced the fire service to stand by helplessly and watch property destroyed by fire because the water supply was beyond the drafting capacity or reach of their pumpers.

Handles dirty water without injury.

Complete with easy instructions and performance data so that you can make your own 30 DAY FREE TRIAL TEST and prove to yourself that the Hi-Lift Suction Booster is a good investment in fire fighting efficiency.

208 GPM WITH THE TRUCK 73 FEET ABOVE AND 165 FEET DISTANT FROM THE WATER

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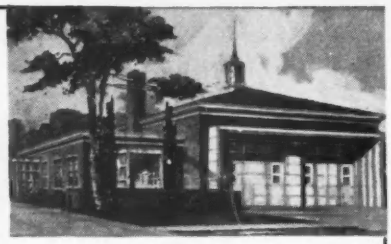
Better
FIRE STATIONS
with CIRCUL-AIR
THE AIR-CONDITIONING



FIRE HOSE DRYER

It's "post-war" now, and we're sure you want your new stations to be of **Modern Design** . . . simpler, streamlined houses in keeping with the times . . . with better lighting, heating, adequate alarm systems, finer apparatus and faster **Hose Drying.** In eliminating the costly, ugly hose tower of the "gay 90's" **CIRCUL-AIR** improves building appearance and lowers construction cost. Efficient and practical for large central stations, they are ideal for "bungalow" type houses, for villages, townships and fire districts where time-saving, space and costs are decisive factors.

for **OLD STATIONS** *too!*

Without adequate drying equipment, or with towers in need of repairs they are most economical and efficient. Cheaper than a tower, more compact than a drying rack, faster and easier to use than either.

ASK A CHIEF WHO HAS ONE
Or Write for Descriptive Booklet

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SIRENO
PRECISION MADE
ELECTRIC SIRENS

SIRENO WITH 7-INCH
RED FLASHING LIGHT

THE UTMOST IN DEPENDABILTY AND LONG LIFE

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HONOR YOUR SERVICE MEN

with a Permanent Roll of Honor

— a lasting tribute to your boys now returning from service. Have it on the wall when they come home. Beautiful walnut plaque with Eagle and victory torches. Individual names in silver on gold-bordered permanent name plates. Sizes for any number of names. Write today for illustrated price list.

U. S. FLAGS

— now available in any size desired. All types of materials. Also flag sets, Standards, etc. Tear out this ad and write for free price list today.

REGALIA MFG. CO.
Dept. 102. Rock Island, Illinois

New Chief of F. D. N. Y.

DEPUTY CHIEF FRANK MURPHY of the New York City Fire Department, a long time N.F.P.A. member, has been appointed Acting Chief of Department by Fire Commissioner Frank J. Quayle.

★ ★ ★

100-Year-Old Church Burns

CHIEF EDWARD G. SPOONER of Fairhaven, Mass., reports destruction by fire, January 19, of the Centre Methodist Church erected in 1841. Fire started under the hot air furnace on Saturday night in a three- to four-foot basement. The furnace rested on a concrete slab supported by two courses of brick resting on 2-inch plank and timber foundation. An oil burner, installed a day or two before, was in operation. Fire burned along the floor ten feet to the west wall and then up the wall to the cockloft and steeple. The building was without fire stops of any kind and a thirty-mile northwest wind fanned the flames. A policeman saw smoke coming from the steeple and sounded an alarm from a street box which brought five pumpers and a ladder truck. Two portable deck guns with 1½-inch tips and five hand lines with large tips were used to save nearby dwellings and records in one corner of the church. Thus fire removed one more hundred-year-old landmark.

★ ★ ★

Spring Clean-Up

Continued from page 26

Sample copies of the pamphlet offered by the N.F.P.A. are available to readers of FIREMEN. Additional copies may be obtained from the Executive Office at $2 per hundred.

The annual Clean-Up Campaign is sponsored by the N.F.P.A. Committee on Fire Prevention and Clean-Up Campaign.

Those desiring assistance in organizing their local campaigns should write to the chairman of the committee, T. Alfred Fleming, 85 John Street, New York City. After the local campaign, a full report should be made to the chairman of the N.F.P.A. Committee on Fire Prevention and Clean-Up Campaign with copies of newspaper articles, prize essays, winning posters, and other material, including a full outline of the results.

"Our INDIAN FIRE PUMPS have given splendid service for over Three Years" says CHIEF J. CARNIE JONES

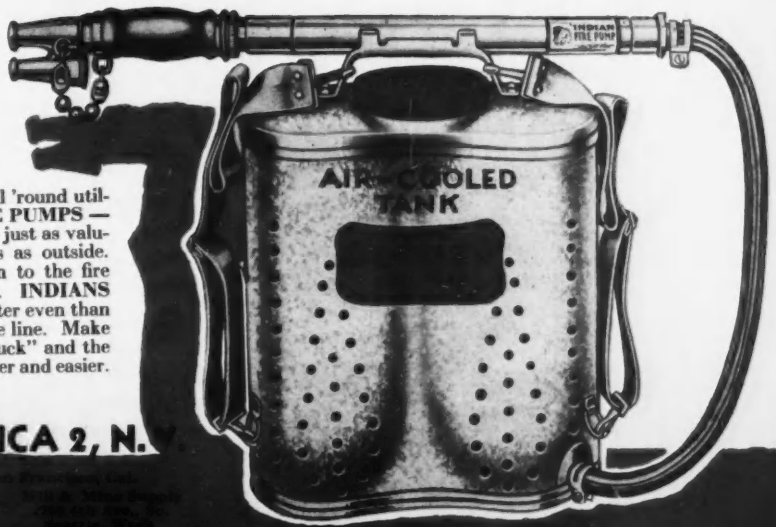
CHIEF J. CARNIE JONES
of Turner, Kansas

"We Like Them Very Much"...

THIS PROFESSIONAL FIRE FIGHTER STATES

Above photo shows the Shawnee Township Fire Trucks of Wyandotte County, Kansas. This section of the country finds many uses for INDIAN FIRE PUMPS. As Chief Jones writes "Ours have given splendid service for more than three years. We like them very much."

Your department also will like them — for their portability, speed of action and the fact they use only clear water, no chemicals.



ORDER NOW!

Warm weather will soon be here and with it an increase in fire hazards. Check your supply of INDIAN FIRE PUMPS and be sure you have enough for the job ahead.

Don't overlook the all 'round utility of **INDIAN FIRE PUMPS** — the fact that they are just as valuable for fires indoors as outside. Get enough water on to the fire with the least delay. **INDIANS** can go into action faster even than the small booster hose line. Make them "first off the truck" and the job will be done quicker and easier.

SMITH & CO., 411 Main St. UTICA 2, N.Y.

FEDERAL ELECTRIC COMPANY, INC.
SIREN HEADQUARTERS

its POWER clears the way!

FEDERAL
traffik-king
SIREN

Oscillating or Flashing Red Light
Single or Double Tone; Regular or Coaster with electric brake

The powerful deep tone of Federal Sirens assures protection for vehicles and pedestrian, because its warning penetrates far ahead, above other traffic noises. Instant starting, constant dependability, long, trouble-free service. Get details today.

PRECISION-MACHINED ROTOR
knife-edge ports
thin, smooth blades
ball bearings
heavy duty 6 or 12-volt motors

WRITE for FREE BULLETINS
Details, illustrations, prices, on this and other FEDERAL Sirens

FEDERAL ELECTRIC COMPANY, INC.
8717 SOUTH STATE ST., CHICAGO 19, ILL.

Midwestern Rubber and Canvas
FIREMEN'S CLOTHING

This Midwestern Combination Suit, made of Vanitex, the modern waterproof fabric, is sold separately or together. The "Mackinaw Coat" is a highly serviceable garment with flexible elastic inner sleeves; adjustable collar strap, detachable wool lining, Midwestern safety snaps, two outside pockets, 6" storm flap and many other good features.

Hundreds in use All over America

Midwestern Bunker Pants with detachable wood lining, safety snap on adjustable belt, wide protecting flap, are sturdily constructed with reinforced crotch for pole sliding. Write today.

Regular Firemen's Boots available ¾ length. See your local Midwestern distributor for price and literature, or write the factory.

Manufactured by
MIDWESTERN MANUFACTURING CO.
MACKINAW, ILLINOIS

A Way of Evaluating Wetting Agents

Continued from page 7

Where a wetting agent has been used, a very definite action is observed that indicates that every bit of the water used is used effectively to wet out a large mass of sawdust.

EVALUATION

The weight of the sawdust which has been brushed off the cone, and shows no color or tint of the dyestuff, is deducted from the weight of the original sample, and the difference represents the weight of the sawdust effectively wetted. Various wetting agents can be evaluated in this manner.

Many excellent tests and data have been given in a brochure printed in 1939 under the title "The Use of Chemicals in Forest Fire Control," by the Forest Products Laboratory, U. S. Department of Agriculture, Madison, Wis. Reference has been made also to another excellent article entitled "Corrosion Studies with Certain Fire-Retardant Chemicals," by Arthur Van Kleeck, Forest Products Laboratory, U. S. Department of Agriculture, January 1942. Wetting agents per se were not mentioned in either of these excellent brochures, hence a method was evolved that might prove a point of departure for future evaluation of wetting agents for fire fighting.

* * *

What is Fire Fighting Equipment?

Continued from page 18

substitution of equipment which to all appearances is entirely adequate but which never the less is inferior, means a slight saving in initial cost. How much actual saving seldom can be proved because maintenance records do not disclose information which would tend to show that the initial saving actually resulted in greater or less operating costs.

Replacement seems to be the only factor which can be used for the purpose and it is suggested that the interested person make comparative checks as between standard and non-standard units. Experience has shown that if cost is the important factor, then by all means use the best in equipment.

HIGH PRESSURE HOSE OPENING
FIRE EXTINGUISHER
1½" LEADER LINE HOSE 150'
MISCELLANEOUS
PUMP CONTROLS WITH DOORS OPEN ...INDIRECTLY LIGHTED PANEL

FWD-*Engineered*

TO GIVE YOU MORE AND BETTER FIRE-FIGHTING APPARATUS

Speed with safety — ample power for toughest going — full four-wheel-drive power and traction for all-weather service — designed by fire truck engineers who know fire-fighting needs, your FWD fire truck provides the finest of fire protection service. Study the features of this FWD-engineered fire truck. You will recognize why these balanced fire-fighting units provide so many years of unfailing service. More than 30 years of specialized fire truck engineering experience is the background of every FWD fire truck — more than 30 years of close cooperation with fire departments everywhere. FWD engineers will be glad to consult with fire chiefs and commissioners and make recommendations that will amply fill community needs for modern fire apparatus at its best. Write for literature.

THE FOUR WHEEL DRIVE AUTO CO.
Clintonville, Wisconsin, U. S. A.

WRITE FOR BULLETIN

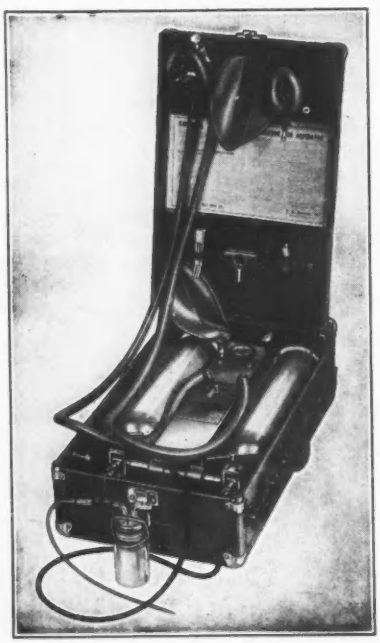
ALL CONTROLS *Grouped Where You Need Them*

The close-up of the control panel shows all fire-fighting equipment controls conveniently located for greatest accessibility. When not in use, panel is covered, protecting instruments against dust, dirt, sleet, ice and snow. Your FWD fire apparatus is always ready for every emergency.

FOUR-WHEEL-DRIVE *Fire Apparatus*
GETS TO FIRES FASTER AND SAFER!

Asphyxia Could Strike On Your Next Alarm!

You never know when smoke suffocation, gas poisoning, electric shock, drowning or other asphyxia is going to threaten the life of your firemen or your citizens. When it does, be ready with an



EMERSON RESUSCITATOR

By its performance in the hands of leading fire departments the country over, Emerson has come to be the Number 1 resuscitator.

•

J. H. EMERSON CO.
24 Cottage Park Ave.,
Cambridge, Mass.
Representatives in Principal Cities

National Fire Protection Association, International

Associate Membership

VOLUNTEER FIRE COMPANY SECTION ($10 annual dues) Eligible:

(1) all bona fide volunteer fire organizations in any community.

(2) all fire departments and companies in communities of less than 25,000 population.

(3) all industrial fire brigades.

Member volunteer fire companies receive ten copies of FIREMEN magazine each month, mailed to the homes of individual firemen. Beyond the ten, additional copies of FIREMEN cost $1 per year.

Volunteer Fire Company Section members, receive, at their headquarters, one copy of all publications sent to NFPA associate members.

ASSOCIATE MEMBERSHIP ($10 annual dues) Eligible: Individual fire department officers, firemen, and others interested in fire safety. NFPA associate members in the fire service receive: one copy of FIREMEN magazine monthly, the NFPA **Quarterly**, the monthly **News Letter**, technical standards, popular bulletins and posters.

All associate members have one vote in Association affairs.

New members: Volunteer Fire Company Section —

England Fire Dept., England, Ark.
St. Helena Fire Dept., St. Helena, Calif.
Rantowl Fire Dept., Rantowl, Ill.
North Muskegon Volunteer Fire Dept., North Muskegon, Mich.
Dassel Fire Dept., Dassel, Minn.
Beaufort-Leslie Volunteer Fire Assoc., Beaufort, Mo.
Morris Plains Fire Assoc., Morris Plains, N. J.
Bellerose Terrace Fire Dept., Bellerose 6, N. Y.
West Corner's Fire Dept., Endicott, N. Y.
Fire Brigade, North American Fire Alarm System, Inc., Plattsburg, N. Y.
Snyder Hose Co., Inc., Snyder 21, N. Y.
Spring Valley Hook & Ladder Co. No. 1, Spring Valley, N. Y.
Chadbourn Fire Dept., Chadbourn, N. C.
South Kingstown Forest Fire Service, Wakefield, R. I.
Clearbrook Volunteer Fire Dept., Inc., Clearbrook Va.

The chief at a skyscraper fire,
As he gazed at the towering pyre,
Bellowed out with a frown,
"Dammit, bring that blaze down,
Our ladder won't reach any higher."

All Des Moines Fire Companies Enrolled in N.F.P.A.

CHIEF CHARLES L. SLADE of the Des Moines Fire Department has enrolled his fourteen fire stations as members of the N.F.P.A. so that all Des Moines firemen will get a chance to read FIREMEN magazine, the N.F.P.A. *Quarterly* and other publications. More and more cities are enrolling all of their fire stations in addition to the usual N.F.P.A. membership held by the top officers.

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Firemen's Training Notes

Continued from page 28

of reading, writing and arithmetic in the common schools of the state.

On motion, duly made, seconded and unanimously carried, the substitute fire training plan submitted by Governor Dewey was rejected and the proposal quoted above calling for fire training under the State Department of Education through its Bureau of Public Service Training was adopted.

Allen County, Ind., Volunteers Have New Association

CHIEF C. W. TUCKER, of the Huntertown Volunteer Fire Company, is president of the Allen County Fire Fighters' Association. The organization was formed by nine volunteer departments and one auxiliary of Allen County and is dedicated to the advancement of education, mutual aid, social relations, and financial conditions of the firemen of Allen County. Some 500 firemen are represented by the ten member departments.

Oklahoma Fire School Program

A TWELVE-PAGE folder has been issued describing the Oklahoma Fire Service Training program sponsored by the Oklahoma A. & M. College in cooperation with the Oklahoma State Firemen's Association. This booklet describes the recently revised training programs which include separate courses for volunteer fire service training and for paid fire service training. Detailed outlines of the many courses are included.

The Oklahoma training program is one of the most complete offered by any state. Fire school officials and fire department instructors will be interested in obtaining a copy of this bulletin from Instructor George Orgain, Department of Trade and Industrial Education, Oklahoma A. & M. College, Stillwater, Okla.

C. C. Johnson Retires from ADT

THE retirement of Pres. C. C. Johnson of the American District Telegraph Company was announced recently. Mr. Johnson has been associated with ADT since 1899 and was elected president in 1929.

Mr. Johnson is well known as vice-president of the N.F.P.A., 1945–1946, and has served on the Advisory, Long Range Planning for Fire Protection, and Signalling Systems and Thermostats Committees.

HALE FZZ RELAYING WATER INTO MAJOR PUMPER

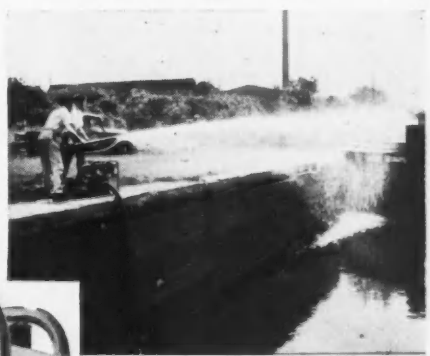
The new Hale FZZ centrifugal pumping unit is a powerful, rugged, ready-to-use unit built for portable or semi-portable use. Compact, dependable and efficient, it is built to stand long hours of continuous pumping. The unit will supply, from draft, 60 U. S. gallons per minute with a pressure of 90 lbs., up to 150 G.P.M. at 30 lbs.

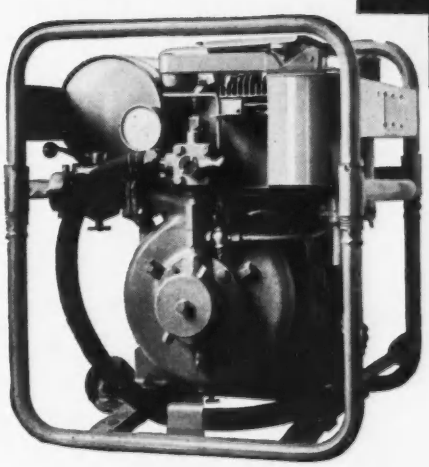
The FZZ is ideal as an auxiliary for pumping into booster tank or direct into suction from stream or source of water which major pumper cannot reach with its suction hose. (See picture above.)

It can be mounted or carried on virtually any type of equipment, making it possible to fight fire while in motion, using a booster tank for source of water.

Simplicity in design and reliability are exemplified in the Hale single stage centrifugal pump, bolted direct to a 7.7 HP, four-cycle, single cylinder air cooled engine.

The Hale Ejector Priming system eliminates priming pumps, clutches or gears.





Above—FZZ Throwing Foam through 1½" hose line. Foam Proportioner built in if specified.

Left—Close-up view of Hale Type FZZ Pumping Unit. Can be easily carried by two men.

★

Write Today For FZZ Folder

HALE FIRE PUMP COMPANY
Conshohocken, Pa.

FIRE PUMPS IN ALL STANDARD CAPACITIES

"U.S." ELECTRIC PLANTS

These rugged 1,500 watt units were designed to fire department specifications — built to meet every need. Dependable, quick-starting, 4-cycle engine. Positive lubrication. Automatic voltage regulation. No fussing to mix gasoline and oil. Compact — an easy load for two men.

Larger and smaller sizes are also available
Write for information

UNITED STATES MOTORS CORP.
424 NEBRASKA ST. OSHKOSH, WIS.

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When you write to advertisers, please mention FIREMEN

MANUFACTURERS' ANNOUNCEMENTS

Ahrens-Fox Resumes Production of Fire Apparatus

ONE of the oldest companies in the history of fire fighting equipment is again in regular production after having fulfilled its wartime contracts for the armed forces. This organization is the Ahrens-Fox Fire Engine Corporation, founded in Cincinnati in 1905. Operating in a modern plant, greatly enlarged during the war period, the Ahrens-Fox Company announces that it is better able than ever before to produce new equipment and to service the Ahrens-Fox apparatus already in wide use throughout the United States.

In announcing the completion of the Ahrens-Fox reconversion program, Mr. H. R. LeBlond, President and Treasurer, said: "We look back with great satisfaction upon the work which we had the privilege of doing for the armed forces. But it is a source of even greater pleasure to be busy once more in what has been normal business for more than forty years. We are today in a position to turn out even more efficient and dependable fire fighting apparatus than the equipment which has already made the name of Ahrens-Fox so well and so favorably known."

●

New Fire Retardant Paint Announced by Albi

A NEW fire-retardant paint has recently been put on the market which is of interest to all fire prevention inspectors and other fire officials. It is a product of the Albi Chemical Corporation of New York and is apparently unique in its properties and effectiveness. According to the manufacturer, "Albi-R," as this new coating material is known, owes its effectiveness not only to the direct fire-resistant action of its ingredients, but also to the marked heat insulation qualities of the mat or "blanket" which is produced when exposed to fire.

"Albi-R" is supplied in the form of two powders which, when mixed with the specified amount of water, may be brushed or sprayed on interior surfaces of buildings. It affords a white, smooth finish surface or, where repeated washing is necessary, may be overcoated with resin emulsion, enamel or oil paint. It may also be applied over an existing coating of paint.

When exposed to fire, blisters form on the treated surface, the blister formation gradually forming a cellular mat. Fire tests conducted by Underwriters Laboratories, Inc., on pine panels showed that a coverage of fifty square feet to the gallon of "Albi-R" produced a retardation of flame spread of from 30 to 40 per cent, as compared with untreated red oak. The fuel contributed by these pine panels was but 10 per cent of the fuel contributed by untreated red oak. The smoke developed from the coated wood was approximately the same as from untreated wood, and the coating material did not add to the toxicity of the gases of combustion.

"Albi-R" is said to be as resistant to interior exposures as cold water paint. An accelerated interior weathering test, conducted by Purdue University, revealed no change in the coating after the equivalent of approximately twelve years exposure.

Another interesting test was conducted at Columbia University. In this case, the test procedure was that called for by Federal Specification SS-A-118. The material tested was a 36 x 36-inch panel consisting of nine 12 x 12-inch perforated cane tiles of "Acousti-Celotex" nailed to a noncombustible backing of cement asbestos board. The surface of the tiles was treated with one coat brush application of "Albi-R." Approximate coverage of the single coat was 175 square feet to the gallon. The results of this test showed that the requirements for "slow-burning" classification were easily met by this material.

Complete information about "Albi-R" will be furnished on request to Albi Chemical Corporation, 9 Park Place, New York 7.

FOR SALE

Maxim 500 g.p.m. rotary pumper 1927 model. 100-gallon booster tank; 150 feet booster hose; 2-inch and 4½-inch suction hose; assorted fittings. New paint, excellent tires; will pass Underwriters' test. Contact: Chief B. F. Smith, Roxbury Road, Stamford, Conn. Telephone Stamford 3-4389.

FIGHT FIRE FASTER

WITH FMC HIGH-PRESSURE FOG FIRE FIGHTERS

SHELTON, NEBR. *FMC Fog Fire Fighter delivered to Shelton Rural Fire Department.*

DIMONDALE, MICH. *FMC Fog Fire Fighter delivered to Windsor Township Fire District.*

LINDSEY, OHIO. *Standard FMC Fog Fire Fighter delivered to Lindsey Fire Department.*

Fire Departments all over the country are selecting FMC High Pressure Fog Fire Fighters because of their ability to put out fires quickly with a minimum of water. Users, new and old, know from experience that High Pressure Fog not only fights fires faster but also saves hundreds of dollars additional, by reducing water damage.

FMC equipment acts on the fire in three ways. *First,* it blasts the flame away exposing the combustible material. *Second,* it blankets the blazing material with finely atomized water and smothers the fire. *Third,* it cools the combustible material faster because water in the form of steam-like fog absorbs the maximum amount of heat.

Orders are rapidly coming in. So don't delay. Deliveries are being made strictly on an order received basis. For the maximum results, get the complete FMC High Pressure unit and technique.

WRITE FOR MORE INFORMATION — WITHOUT OBLIGATION

GENOA, OHIO. *Standard FMC Fog Fire Fighter delivered to Genoa Fire Department.*

SO. WILLIAMSPORT, PA. *Standard FMC Fog Fire Fighter delivered to 1st Ward Fire Company, So. Williamsport, Pa.*

BENTON HARBOR, MICH. Standard FMC Fog Fire Fighter delivered to Benton Township Fire Department. This unit carries its own water supply and complete fire fighting equipment. It provides two guns of 30 gallons each at 600 lbs. nozzle pressure.

FMC *Original* HIGH-PRESSURE FOG FIRE FIGHTER

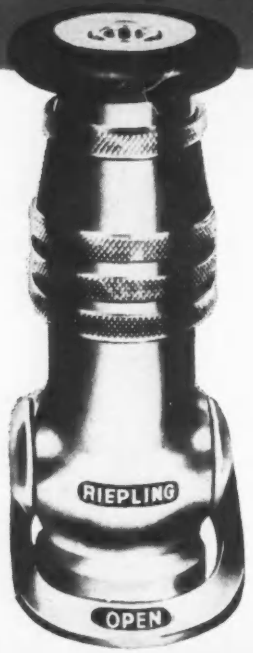
CAN BE MOUNTED ON MOST STANDARD TRUCK CHASSIS

FOOD MACHINERY CORPORATION

JOHN BEAN MFG. CO., 726 HAZEL ST., LANSING 4, MICH. • BEAN-CUTLER DIVISION, 426 JULIAN ST., SAN JOSE, CALIF.

BUILDERS OF BEAN HIGH-PRESSURE PUMPS FOR OVER 60 YEARS

One Nozzle FOR EVERY FIRE



GET ALL EFFECTIVE STREAMS WITH

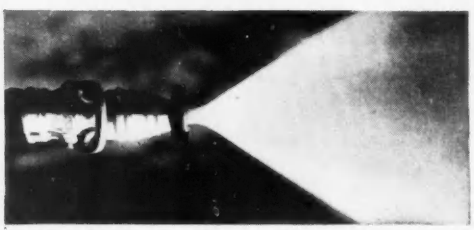
The Riepling UNIVERSAL NOZZLE

It is five nozzles in one, providing quick stream selection by separate shutoff on either straight stream or fog. It eliminates the necessity of carrying extra nozzles or spray tips.

RIEPLING UNIVERSAL NOZZLES

are now used by many Municipal Departments, Industries, Naval Air Stations, Army Air Fields and Coast Guard Vessels.

1. A Solid Stream that has longer reach.



2. A Solid Cone of Fog on low pressure with minimum gallonage.

3. A Water Curtain with maximum visibility and protection.

4. A Simultaneous Combination of Water Curtain with Solid Stream.

5. A High Velocity Water Fog Spray, produced by 30° fog and impinging effect between partially opened main valve streams.

Available for 1", 1½" and 2½" hose. Write for bulletin giving water discharge data and complete description.

MANUFACTURED EXCLUSIVELY BY

George E. Sleeper COMPANY

2600 NINTH STREET ENGINEERS BERKELEY 2, CALIF.

FOUR STREAM SELECTIONS • FOGS ON 90 POUND PRESSURE • USES LESS WATER

AKRON SUCTION HOSE COUPLING

Akron Suction Hose Couplings are furnished with long hose bowls which eliminate any possibility of couplings blowing off even under the most severe working conditions. Channel type long handles furnished on Akron Suction Hose Couplings provide better hand grip and eliminate possibility of breakage.

Always specify Akron when ordering couplings, nozzles and other brass fire fighting equipment to assure your getting the latest engineering developments for most efficient fire fighting service.

AKRON BRASS MFG. COMPANY, INC. • WOOSTER, OHIO

AKRON BRASS

FIRE FIGHTING EQUIPMENT

One Cylinder Bank Can Guard Several Hazards

A single centrally located bank of Kidde cylinders can, in many instances, be used to protect more than one fire hazard. By means of directional valves, carbon dioxide from the cylinder bank can be discharged into any of the protected areas.

The directional valves may be manually or automatically controlled. A three-quarter turn of the manual valve directs the carbon dioxide to the correct nozzles. In automatic operation, the heat detectors in the threatened space actuate the valves.

Full details may be obtained from Walter Kidde & Company, Inc.

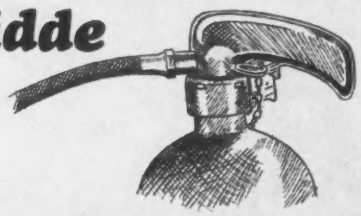
KEEP EXTINGUISHERS IN FIGHTING TRIM

Free Booklet Tells How

For helpful tips on keeping your extinguishers always ready for action, get your free copy of "Inspection & Maintenance of First Aid Fire Extinguishers."

Walter Kidde & Company, Inc.
356 Main Street, Belleville 9, N. J.

Kidde

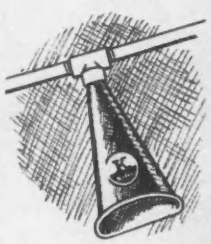


AIM AT THE FIRE . . .
PULL THE TRIGGER

The natural way is the right way to fight fires with the Kidde Model 15 Portable. Single-finger control—safe, simple, foolproof.

Mail and Phone Orders Filled

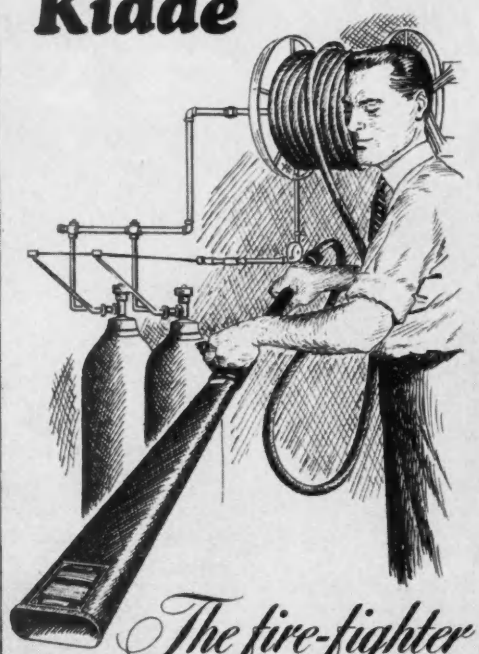
Kidde



PUTS FIRE OUT IN TWENTY SECONDS!

Shielded nozzles supplied with Kidde Total Flooding Systems rapidly fill threatened space—floor to ceiling—with carbon dioxide. Fire is smothered in seconds.

Kidde



The fire-fighter with a 50-foot swing

Kiddie Hose Reels pack a real-fire-killing wallop. Hose length up to 150 feet gives operator plenty of freedom for action in extinguishing flames. New light-weight reel. Supplied with one or more 50-pound cylinders of carbon dioxide.

MAIL AND PHONE ORDERS FILLED

The word "Kidde" and the Kidde seal are trade-marks of Walter Kidde & Company, Inc.

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